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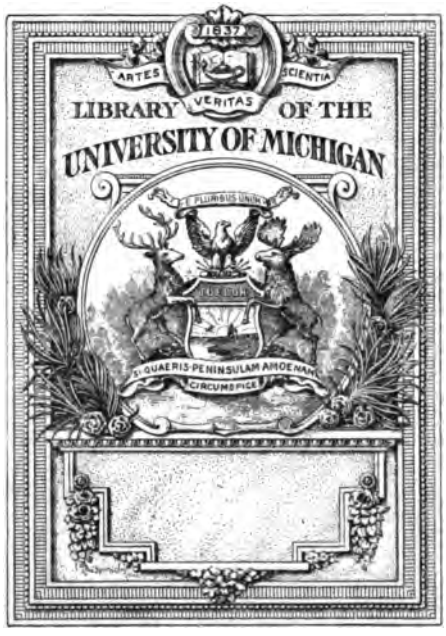

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DEPARTMENT OF COMMERCE AND LABOR

BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

OCTOBER-DECEMBER, 1908

Nos. 337-339

WASHINGTON

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1908

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MONTHLY CONSULAR *and* TRADE REPORTS

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FOREIGN COMMERCE.

GERMANY.

TRADE REVIEW OF THE EMPIRE.

DECREASE IN IMPORTS AND EXPORTS DURING THE PRESENT YEAR.

The German imperial statistical bureau, having recently issued its year book for 1908, has enabled Consul-General A. M. Thackara, of Berlin, to furnish the following information covering the foreign trade of Germany for the first six months of 1908, and to give some supplementary information concerning the trade of the year 1907, whereon the consul-general had previously reported:

The imperial bureau in revising its figures of the year 1907 has made some slight changes from the official figures given in my annual report, submitted some time back, but the changes do not materially affect the general totals.

IMPORTS AND EXPORTS BY CLASSES.

For the first time half-manufactured products are included in the raw material class, and living animals are separated from the foodstuff and provision class, as exemplified in the following statement showing the imports and exports for the years 1905, 1906, and 1907, and the percentage of each class in the total trade:

Classes.	1905.		1906.		1907.	
	Value.	Per cent of total.	Value.	Per cent of total.	Value.	Per cent of total.
IMPORTS.						
Raw materials and half-finished products	$822,800,000	48.5	$959,700,000	50.3	$1,055,500,000	50.7
Manufactured products	316,100,000	18.6	398,400,000	20.9	448,000,000	21.5
Foodstuffs and provisions	490,300,000	28.9	483,200,000	25.3	524,200,000	25.2
Living animals	67,500,000	4.0	67,900,000	3.5	54,000,000	2.6
Total	1,696,700,000	100	1,909,200,000	100	2,081,700,000	100
EXPORTS.						
Raw materials and half-finished products	333,300,000	24.5	330,800,000	21.8	356,900,000	21.9
Manufactured products	910,000,000	66.7	1,046,900,000	69.2	1,144,500,000	70.2
Foodstuffs and provisions	116,400,000	8.5	133,200,000	8.8	126,300,000	7.7
Living animals	4,300,000	.3	2,500,000	.2	2,800,000	.2
Total	1,364,000,000	100	1,513,400,000	100	1,630,500,000	100

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INTERESTING FEATURES OF THE TRADE.

The most interesting features of the foregoing statement relating to imports are the gradual increase in the percentages of raw materials and half-finished products and the decrease in the percentages of food products and provisions and live animals. In 1907, to supply materials for its industries, one-half of Germany's imports was raw products and materials partly worked, while the amount of food products and provisions was only 25.2 per cent of the total imports, the lowest figure for many years.

Of the exports in 1907, manufactured products constituted 70 per cent of the whole. This is a record proportion, and indicates most clearly the results of the efforts this country is making to secure foreign outlets for the sale of the products of its manufactories, mills, furnaces, etc.

The most notable increases in the values of the exports in 1907 were in cotton goods, machinery of all kinds, woolen goods, silk ware, coarse and fine iron ware, toys, bicycles and parts, rails, and indigo. The values of the exports of sugar, gold and silver ware, aniline and other coal-tar colors, clothing of all kinds, books, copper ware, etc., showed a falling off as compared with the previous year. The decrease in the value of the exports of sugar ($10,281,600) was greatly due to the fact that the shipments of sugar to the United States during 1907 practically ceased.

As to the imports in 1907, with the exception of copper, hides, sawed and squared lumber, lard and lard fats, caoutchouc and gutta-percha, fur skins, combed wool and calfskins, the values of the raw materials for the industries were all greater than in 1906. The increased value of the raw cotton imports during 1907 was over $25,000,000, or 24.5 per cent. Of the quantity received, 476,419 metric tons, which were record figures, 324,283 tons came from the United States, 108,006 tons from British India, and 36,433 tons from Egypt. The cotton receipts, both of American cotton and that from the East Indies, were the largest known.

TRADE FOR THE FIRST SIX MONTHS OF PRESENT YEAR.

The value of imports, including precious metals, during the first six months of 1908 was $1,024,110,192, as compared with $1,052,812,754 during the same period in 1907, a decrease of $28,702,562, or 2.7 per cent. The value of exports in 1908, including precious metals, was $786,226,574, against $796,174,974 during the first six months of 1907, a decrease of $9,948,400, or 1.25 per cent. In other words, the total foreign trade of Germany, including precious metals, during the first half of the present year was $1,810,336,766, against $1,848,987,728 in the same period of 1907, a decrease of $38,650,962, or 2.09 per cent.

The trade in precious metals during the period in question was as follows: Imports in 1908, $33,930,946, against $18,830,084 in 1907; exports in 1908, $7,821,870, against $9,172,282 in 1907.

The decrease in the value of the imports during the first six months of 1908 may partly be explained by the fact that the prices of foreign raw materials on which the German Empire depends to supply the

wants of its industries have been considerably cheapened, and partly by the economic and industrial depression which is now existing throughout Germany. The value of the total imports during the said period would have been still less had not the Imperial Bank increased its receipts of gold some $15,000,000.

The value of the exports has not decreased in the same proportion as that of the imports, as the prices of certain finished products have partly been maintained. On the other hand, the low prices at which the products of the German mines and furnaces were sold in foreign markets lowered the value of the exports.

IMPORTS AND EXPORTS BY ARTICLES.

The following table shows the imports and exports of the principal commodities during the first six months of 1907 and 1908 in metric tons (2,204.6 pounds):

Articles.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
Rye	313,279	190,529	108,045	109,474
Wheat	1,155,367	1,040,926	50,603	52,811
Barley:				
Malt	149,841	126,221	.....	.....
Other	687,919	594,076	737	665
Oats	165,992	134,318	152,787	322,073
Corn	624,197	364,052	.....	.....
Rice:				
Unhulled	36,414	36,093	.....	.....
Hulled	95,630	201,183	5,073	4,187
Linseed	232,718	251,149	3,245	4,752
Cotton seed	22,113	31,298	.....	.....
Potatoes	89,580	58,323	37,492	78,764
Cotton:				
Raw	284,820	252,617	25,335	28,062
Linters	14,170	12,639	1,467	1,845
Apples:				
Dried, etc	10,222	7,858	.....	.....
Fresh	8,920	13,224	.....	.....
Prunes, dried	12,680	9,859	.....	.....
Coffee, raw	97,434	97,369	.....	.....
Lard	49,505	58,944	.....	.....
Oleomargarine	15,474	12,482	.....	.....
Tallow	10,528	7,700	220	420
Eggs	86,171	76,122	427	343
Wheat flour	9,324	8,330	40,816	59,913
Cotton-seed oil	34,415	26,558	.....	.....
Olein	8,604	7,593	133	199
Sugar	.....	.....	476,541	470,381
Oil cake and meal	390,569	338,020	74,762	83,215
Iron ore	3,910,240	3,320,682	2,014,968	1,675,128
Coal	5,780,077	5,559,354	9,585,270	9,838,175
Lignite	4,341,279	4,432,287	9,836	13,328
Coke	230,420	258,212	1,802,420	1,811,871
Briquettes	61,241	55,150	366,754	607,893
Briquettes, lignite	22,524	38,983	210,616	194,570
Petroleum, refined	481,983	504,059	.....	.....
Chile saltpeter	409,674	393,565	17,983	18,617
Chemical and pharmaceutical products	800,423	792,776	1,143,376	1,170,714
Machinery	50,283	45,865	154,797	174,483
Electrotechnical products	1,397	1,711	30,154	38,181
Pig iron	193,446	126,055	166,770	113,943
Copper	57,157	81,605	2,641	3,059

The greater part of the decrease in the imports during the first half of the present year was in the receipts of agricultural products, which was due to the smallness of the world's grain crops. As a consequence the exports of grain from Germany were larger than

during the first six months of the previous year. Cotton and cotton linters, dried apples, prunes, oleomargarine, tallow, wheat flour, cotton-seed oil, olein, oil cake and meal, iron ore, coal, pig-iron, etc., all showed a falling off in the imports. There was an increased importation of linseed, cotton seed, fresh apples, lard, lignite, coke, refined petroleum, and copper.

The most noticeable decrease in the exports was in sugar, iron ore, and pig iron. While the amount of raw beet sugar which Germany sent to the United States during the first half of 1907 was virtually nil, 56,092 tons have been shipped for the American refineries up to June 30 of the present year.

INDUSTRIAL DEPRESSION.

The economic depression which was prevailing at the commencement of the year has been accentuated during the past six months. At the present time reports from most of the industries are pessimistic, with the exception of those from the manufacturers of electrical goods and locomotive and car builders. It is stated that in the locomotive works there are sufficient orders on hand at this time to keep a full force of employees steadily occupied until the first months of next year. There are, however, but few new orders being received, owing to the strong competition of American manufacturers in South America and Japan and to the slackening of the demands in the local mining industries.

It is not known yet what amount of material will be necessary for the wants of the Prussian railway administration, but it is not thought that the order of the Government will compensate the local builders for the loss of trade in the above-mentioned markets. There is but little complaint heard in the electrical industries, except that orders for new installations are slow in coming in. The building trade has shown more activity in the past few months, which has had a favorable effect on the allied trades.

In general the rest of the industries are suffering from the depression, especially the textile branches in which the labor hours are being shortened and the production curtailed. In the metallurgical industries purchases have been reduced to the minimum, and the receipts of the navigation companies have fallen off to such an extent that the profits have been greatly lessened. The formation of new stock companies may be considered as a barometer which indicates the prevailing economic and industrial conditions. Notwithstanding the abundance of available money at the present time the amount of capital invested in new companies during the first six months of 1908 was $122,855,863 as compared with $174,866,739 in the same period in 1907, or a difference of 29.8 per cent.

At this time there is not an actual crisis existing in the industrial circles of Germany, but rather a stagnation. According to financial and trade reports the prospects of an immediate recovery of normal conditions are not bright.

In this connection it may be stated that the German manufacturers are redoubling their efforts to secure new outlets for the products of their plants in foreign countries and to increase those already secured. [A report along the lines of the foregoing was also received from Consul William Thomas Fee, of Bremen.]

THE PIANO TRADE.

AMERICAN LEAD ALL FOREIGN INSTRUMENTS IN THE EMPIRE.

In reply to an inquiry from the United States, Consul Thomas H. Norton, of Chemnitz, furnishes the following information concerning the piano trade of Germany and the outlook for enlarging the sale of American pianos therein:

In nearly every branch of the industry Germany is producing musical instruments, and not only covers, to a large extent, her own needs, but also exports them in large quantities. The following statement shows the imports and exports of musical instruments into and from Germany in 1907:

Description.	Imports.	Exports.
Pianos	$158,508	$8,595,846
Parts of same	73,304	1,013,880
All other musical instruments	794,682	5,771,508
Total	1,026,494	15,381,234

The imported pianos come chiefly from the United States. The imports in 1907 were as follows, in short tons: United States, 254 tons; United Kingdom, 18 tons; all other countries, 38.5 tons; total imports, 310.5 tons. The imports of piano parts amounted to 75.2 tons, of which 69 tons were imported from France.

The average value per ton of the imports was $50.98 for pianos and $97.20 for the mechanisms and parts.

EXPORTS OF GERMAN PIANOS.

The exports of German pianos extend to nearly every country. The statistics of 1907 can be profitably studied, as showing the most favorable markets at present for this trade. The exports in 1907 were as follows:

Whither exported.	Quantity.	Whither exported.	Quantity.
PIANOS.	*Short tons.*	PIANOS—continued.	*Short tons.*
United States	24	Uruguay	126
United Kingdom	4,837	British India	123
Australia and New Zealand	3,094	Roumania	123
Russia	906	Norway	113
Argentina	884	Peru	90
Netherlands	724	Cuba	69
Italy	695	Siberia	28
Denmark	452		
Switzerland	418	Total	15,166
Mexico	386		
Belgium	313	PIANO PARTS.	
British South Africa	287		
Chile	271	United States	1,212
Brazil	250	United Kingdom	736
Austria-Hungary	215	Russia	180
Sweden	186	Austria-Hungary	134
Finland	145	Switzerland	52
Egypt	147	Sweden	48
France	131		
Portugal	129	Total	2,362

GERMAN PIANOS AND CONDITIONS FAVORING THE SAME.

A very large share of the pianos, and of other musical instruments, are manufactured in Dresden, Leipzig, and Berlin, the three chief

centers of the German trade. In the other two large cities of the Kingdom there is probably a higher appreciation of the choicer products of foreign piano makers, as they are distinctly centers of music and musical training.

In Chemnitz there is a widespread love of music and an extensive sale of pianos. A single make of American piano seems to be known here, and that is apparently because the manufacturers have established a branch factory in Germany.

The German manufacturer is protected by an import duty of 400 marks per metric ton ($85 per short ton) on completed pianos, and 550 marks per metric ton ($116.90 per short ton) on piano mechanism and parts. Furthermore he has the advantage of being able to select factory operatives from a large class of workmen, trained from infancy to the production of musical instruments and possessing individually a high average of musical skill. Such labor is accustomed also to a far lower rate of wages than prevails in the United States.

HOW AND WHERE TO INCREASE AMERICAN TRADE.

Any effort to gain an entrance into the German market involves a very careful study of existing conditions and much determined and persistent labor, if it be found possible to compete in price and quality with the current domestic makes. That this has been done, to some extent, by American piano manufacturers is evident from the import statistics quoted above. They now effect annual sales in the Empire of about $140,000.

More success would probably attend an equal amount of effort devoted to meeting German competition in other foreign lands, where there is an equality in conditions and the maker has no longer the protection of the German tariff. The enormous demand for pianos in the United Kingdom, Australia, Argentina, Russia, etc., indicates clearly the best fields for meeting this well-equipped branch of German industry.

GERMAN VERSUS ENGLISH PIANOS.

A recent statement in a leading British trade journal throws valuable light on the growth of the German piano trade. Complaint is made therein that the former large shipments of English pianos to Egypt and to the British colonies are steadily dwindling away, and that Germany is replacing the United Kingdom in this field. One leading reason is offered for this very pronounced loss of trade. It is claimed that while the German pianos cost on an average more than the English, they present a much handsomer external appearance. More labor is devoted to carving and general finish. In such lands as Egypt these features count for a great deal in influencing a choice of instruments, and the German manufacturer has been prompt to recognize the fact.

The local sale of pianos is confined chiefly to uprights. Square and grand pianos are not often found in private residences, but are employed chiefly for concerts. Most instruments are sold at prices ranging from $100 to $300. A good square piano can be purchased for $200. [A list of the leading piano dealers of Chemnitz, furnished by Consul Norton, is on file in the Bureau of Manufactures.]

OIL AND SEED-MEAL IMPORTS.

RIVALS OF COTTON-SEED PRODUCTS IN PRUSSIAN MARKET.

One of the leading Magdeburg dealers furnishes to Vice-Consul James L. A. Burrell the following facts on the oil and seed-meal trade in that German market for the year 1907:

German poppy oil has almost disappeared from the market. Poppy oil from the Levant was offered in its stead, but its sale was restricted because of the prevailing high prices. East India poppy oil, however, was sold steadily throughout the year, but on account of the poor crop the price was higher than for some time. Sesame oil also increased in price, owing to the bad crops in India and on the Mediterranean. Nevertheless much business was done, and at times the demand was greater than the supply, due, in part, to the high prices for American cotton oil.

Peanut oil increased in popularity as a fine table oil, and the outlook for business during the present year is favorable. Peanut oil was also tried for technical purposes in place of the more expensive cotton oil, but the sales were not large.

Cotton-seed meal was used less for feeding purposes in 1907 than formerly. Palm-kernel meal, rape meal, and poppy cakes held their own, while rice bran, sesame cakes, peanut and cocoa cakes were produced in larger quantities and had a larger use. Corn products were imported in large quantities and sold at high prices.

The number of cattle kept does not show a noticeable decrease, and the demand for feed stuffs will be as great as formerly, and the prices are likely to remain high.

ITALY.

FOREIGN TRADE EXCHANGE.

DECLINE SHOWN THIS YEAR—HEAVY AMERICAN COMMERCE.

Consul D. R. Birch reports from Genoa that the foreign trade of Italy during the first three months of the present year decreased by $13,832,147 in comparison with the business for the same months of 1907. These figures are reflective of less movement in both imports and exports.

The following table shows figures for the first three months of 1908, with the gains or losses, compared with the same period of 1907:

Articles.	Imports.		Exports.	
	Value.	Gain (+) or loss (−).	Value.	Gain (+) or loss (−).
Spirits, beverages, and oils	$2,715,640	+ $613,685	$6,660,872	+ $205,863
Coffee, tobacco, and spices	2,347,316	− 499,825	243,318	− 104,363
Chemical products, medicinals, resin, and perfumery	6,450,118	+ 799,706	3,176,018	− 99,964
Dyeing and tanning extracts	1,849,925	+ 81,754	298,207	− 104,380
Cotton	19,342,094	+ 610,573	4,813,514	−2,065,906
Hemp, jute, flax, etc	2,778,684	+ 90,703	4,376,310	+ 517,020
Wool, horse hair, and other hair	7,993,787	+ 588,651	1,139,225	− 455,515
Silk	9,105,864	−3,705,568	27,253,558	−5,411,553
Lumber	6,636,609	+1,629,637	2,617,759	− 345,535
Paper	2,316,486	− 21 625	1,125,811	+ 12,951
Skins	3,924,469	−1,284,358	2,213,890	+ 260,588
Mineral ore, metal, and metal works	33,078,604	+2,589,693	2,545,185	+ 534,312
Vehicles	3,466,363	+1,748,495	1,330,968	+ 558,114
Stones, porcelain, and glasswares	15,556,949	− 98,949	4,241,919	+ 199,240

Articles.	Imports.		Exports.	
	Value.	Gain (+) or loss (−).	Value.	Gain (+) or loss (−).
Rubber and gutta-percha	$1,552,350	+ $257,577	$427,962	+ $131,927
Wheat, flour, pastes, and vegetable products	9,166,371	−8,282,686	12,206,004	+1,173,004
Animals and animal products	8,660,387	+1,168,136	8,665,715	+ 302,361
Other and various unnamed merchandise	1,770,402	+ 113,662	2,258,680	− 432,089
Total general merchandise	138,712,418	−3,600,739	85,594,915	−5,123,925
Precious metals	955,041	−5,165,645	485,549	+ 238,162
Total	139,667,459	−8,766,384	86,080,464	−4,885,763

IMPORTANT TRAFFIC WITH UNITED STATES.

Germany maintains the lead in the volume of business done by Italy with other nations, and the end of the first quarter of the year finds the United States pushing Great Britain closely for second place. The value of the import and export trade of Italy with the three countries from January 1 to March 31, 1908, is as follows:

Country.	Imports.	Exports.	Total.
United States	$22,493,571	$9,308,776	$31,802,347
Germany	25,476,579	10,935,959	36,412,538
Great Britain	25,707,021	7,135,210	32,842,231

In detail the imports from the United States is shown by the following classifications:

Articles.	Value.	Articles.	Value.
Cotton oil	$176,788	Automobiles	$23,160
Mineral oils (resin and tar)	976,387	Phosphate mineral	188,561
Tobacco	266,533	Mineral, unmetallic	59,058
Sulphate of copper	7,527	Coal	43,425
Paraffin, solid	227,354	Rubber and gutta-percha	25,862
Chemical products, medicinals	194,351	Wheat	1,763,827
Cotton	12,531,876	Salted meats	490,027
Lumber	591,159	Fish	419,003
Staves	131,047	Lard	214,423
Leather	74,112	Other grease	363,805
Copper, brass, and bronze	2,082,856	Notions	14,282
Lead	145,522	Other articles	693,256
Machines and parts of	615,863		
Scientific instruments	173,507	Total	22,493,571

The exports from Italy to the United States from January 1 to March 31, 1908, were as follows:

Articles.	Value.	Articles.	Value.
Wine	$250,321	Gloves and shoes	$19,879
Olive oil	644,813	Tanned leather	6,562
Essences	346,049	Machines	4,053
Citrate of lime	215,967	Automobiles	152,084
Tartar, crude	110,975	Marble	162,506
Chemical products, resin, and perfumery	187,403	Sulphur	61,374
Tanning	51,338	Flour and macaroni	746,138
Hemp	352,032	Oranges and lemons	292,009
Hemp fabric	47,671	Dried fruits	154,786
Cotton fabric	117,344	Preserved fruits	82,417
Wool and wool waste	20,844	Tomato paste	176,402
Horse hair	20,265	Cheese	395,650
Silk waste and threads	3,041,101	Human hair	92,254
Silk goods	130,468	Coral	33,582
Other silk fabric	5,018	Notions	4,246
Furniture	51,338	Hats	327,714
Straw braids	49,987	Objects of art	55,391
Paper	63,497	Other articles	727,224
Skins	108,080	Total	9,308,776

CONTINUED BUSINESS DEPRESSION.

DECREASED IMPORTS AND EXPORTS DURING THE PRESENT YEAR.

Vice-Consul Bayard Cutting, jr., of Milan, furnishes the following statistics covering the foreign trade of Italy during the first five months of 1907 and 1908:

During the first five months of 1908 the general imports and exports of Italy decreased 6.2 and 3.5 per cent, respectively, as compared with the first five months of 1907. As will be seen by the following statement, the six principal countries with which Italy trades have not shared in this decrease, save in the exports to the United States. From all the six countries Italy imported more in 1908 than in 1907, and the only noticeable decrease in the exports was with the United States. The chief decreases in both imports and exports, therefore, occurred with the minor countries, entered under the head of "all other countries."

The following statement shows the imports and exports of Italy from and to the six leading countries during the first five months of 1907 and 1908:

Country.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
United States	$36,676,000	$37,663,000	$19,362,000	$14,696,000
Austria-Hungary	18,068,000	19,584,000	11,209,000	12,156,000
France	22,546,000	23,470,000	16,111,000	17,573,000
Germany	42,587,000	51,051,000	19,322,000	20,499,000
United Kingdom	38,442,000	42,863,000	12,389,000	12,385,000
Switzerland	5,194,000	5,603,000	23,260,000	29,275,000
All other countries	86,359,000	54,127,000	51,452,000	40,979,000
Total	249,872,000	234,361,000	153,105,000	147,563,000

LARGE DECREASE IN MILAN EXPORTS TO THE UNITED STATES.

The value of the exports invoiced through the Milan office during the quarter ended June 30, 1908, shows a decrease of $1,783,000, or 34.3 per cent, from the total of the same period in 1907, and the falling off during the first quarter was $2,278,000, or 42.7 per cent, making the total decrease for the half year $4,061,000, or 38.6 per cent, as compared with 1907.

Of the total exports declared during the quarter ended June 30, 1908 ($3,375,256), raw silk amounted to $2,908,391, leaving only $466,865 for all other articles. The decrease in raw silk, as compared with the second quarter in 1907, amounted to $1,480,633, and for all other goods $290,439. The chief articles composing "all other articles," nearly all of which show decreases, were: Bitters and liquors, $92,264; silk and cotton goods, $63,062; horsehair, $53,229; cheese, $44,839; silk manufactures, $36,538; automobiles, $31,716; gloves, $20,095, etc.

Notwithstanding the foregoing figures, it may be said that the exports from Milan to the United States show distinct signs of revival, and the stream of raw silk in particular will soon flow at the old level to the looms of the United States, the shipments during the first twenty-seven days of July, 1908, having amounted to 846 bales, against 770 bales for the month of July in 1907.

PIANO MARKET REQUIREMENTS.

AMERICAN INSTRUMENT IS SUPERIOR IN WORKMANSHIP AND TONE.

Consul Jerome A. Quay, of Florence, calls attention in the following report to the opening in Italy for American pianos:

One of the leading piano dealers of this city informs me that American pianos compare most favorably with those of German manufacture both in regard to workmanship and quality of tone, but the design of the frame is too cumbersome to please buyers. It should be more artistic and lighter, and the music holder should be made more after the pattern of the folding reversible holder that is attached to the instruments made in France, which is light, strong, and convenient.

The advantages offered by German manufacturers are lower prices and better terms. As a general rule prices are quoted f. o. b. at Florence if the goods are forwarded by rail, or by sea f. o. b. Leghorn or Genoa, with three months' credit or 2 per cent cash discount. A good piano delivered here should not cost more than $200, and for a lower grade from $100 to $150. With these terms and conditions complied with, the American piano would have the preference on this market.

SPAIN.

FOREIGN TRADE GROWTH.

FIRST FIVE MONTHS OF THIS YEAR SHOWS GENERAL INCREASE.

The following statistics furnished by Consul-General Frank D. Hill, of Barcelona, show the amount of foreign trade of Spain during the first five months of the last three calendar years:

	1906.	1907.	1908.
Imports	$72,667,241	$67,982,758	$70,117,241
Exports	63,317,241	63,222,414	68,827,586
Total	135,984,482	131,205,172	138,944,827

Deducting therefrom the amount of precious metals, the imports and exports, classified under the different headings into which they are divided, amounted to the following:

	Imports.			Exports.		
	1906.	1907.	1908.	1906.	1907.	1908.
Raw materials	$29,658,621	$35,124,138	$35,639,655	$25,372,413	$27,031,034	$23,367,241
Manufacture, articles of	20,944,837	19,924,138	23,906,897	16,960,348	15,251,724	19,300,000
Food products	21,634,483	12,594,827	10,289,655	20,467,241	20,391,379	24,418,965
Total	72,237,931	67,643,103	69,836,207	62,800,002	62,674,137	67,086,206

EXPORTS FROM BARCELONA TO UNITED STATES.

Consul-General Hill also furnishes the following statistics of the exports from Barcelona to the United States and tells of the plan to make it a port of call for the Messina-New York steamship line:

The following statement showing the quantities of the principal articles of declared exports from Barcelona to the United States during the calendar year 1907 was made up at this consulate-general at the request of people here, who plan, if sufficient cargo offers, to make Barcelona a port of call for their steamers on voyage from Messina to New York. The amounts of the several articles are given in tons: Oxide of antimony, 63; arsenious acid, 1,000; old jute baggings, 735; cotton cloth, 65; cotton cuttings, 43; cotton waste, 606; fireworks, 32; garlic, 26; crude glycerin, 536; jute and hemp waste, 95; lentils, 95; licorice paste, 263; mineral water, 37; olive oil, 20; canned peppers, 20; common salt, 11,400; canned vegetables, 31; walnut wood, 59. Wines, 5,196 gallons. [Names and addresses of principal exporters are filed in the Bureau of Manufactures.]

OLIVE-OIL EXPORTS.

LARGE YIELD WILL CHECK IMPORTATION OF LUBRICANTS.

Consul-General Hill furthermore discusses the present status of the Spanish olive-oil trade in the following report from Barcelona:

As a protectionist measure, the olive growers of Andalusia are petitioning the Central Government to prohibit the sale in Spain of all foreign oils, whether produced from oleaginous seeds or otherwise, likewise the sale of all oils mixed with olive oil.

Olive growing as well as vine growing and the cork industry are three Spanish industries that are in a high degree of productivity. Exports of olive oil reach about 18,000,000 to 20,000,000 pesetas (about $3,100,000 to $3,450,000) annually, and in years of large crops twice those amounts. The oil does not, however, reach consuming markets directly, but is shipped from here to France and Italy—the largest foreign consumers—where it is refined, elaborated, and mixed with other oils and adapted to the demands of consumers in other countries. Formerly these countries took about two-thirds, at present about one-half, of the total exportation. Antiquated methods of extraction are now giving way to modern, and it is hoped that the tribute hitherto paid to French and Italian middlemen may be hereafter avoided and that the Spanish producer may by so much reap a larger reward for his work.

LUBRICANT TRADE AFFECTED.

There was a large increase in imports of lubricating oils into Spain from the United States in 1907 over 1906. This was due to the short crop of olives and high price of olive oil. Prices have fallen this year owing to a large yield of olives; hence American exports of lubricating oils to Spain will probably show a falling off in 1908.

The following figures, showing imports of oil and oil substances into Spain for the last three calendar years, give color to the Andalusian contention:

Kind.	1905.		1906.		1907.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Cocoa and palm oil	614,277	$42,845	1,195,260	$84,305	1,643,362	$117,479
Other vegetable oils, other than olive oil	1,437,773	101,410	1,977,712	158,093	1,767,750	141,308
Linseed, sesame, etc	86,779,906	3,203,805	99,901,694	3,288,300	121,815,696	4,009,607

STATISTICS OF EXPORTS.

The exports of olive oil from Spain in the past three years were:

Locality.	1905.		1906.		1907.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Southern provinces	50,167,735	$3,931,641	18,379,084	$1,440,367	14,983,278	$1,174,238
Eastern provinces	24,364,474	1,909,442	22,387,737	1,754,525	8,371,402	656,066
Other provinces	770,266	60,365	838,649	65,725	345,174	27,051
Total	75,302,475	5,901,448	41,605,470	3,260,617	23,699,854	1,857,355

The figures for the first five months of 1908 are, however, more reassuring. Exports of olive oil, which were 12,631,964 kilos (27,790,320 pounds) in the first five months of 1906 and had fallen to 5,388,807 kilos (11,855,364 pounds) in an equal period in 1907, reached during the first five months of 1908 15,903,429 kilos (34,987,544 pounds).

NEW PIER AT HUELVA.

IMPORTANT ADJUNCT TO MARITIME TRAFFIC NOW COMPLETE.

Consular Agent W. J. Alcock, of Huelva, furnishes the following information concerning the new pier opened on July 16 for service at that Spanish port, which was begun in 1904:

There are four loading and discharging berths, two on each side of the pier, each 375 feet in length. The depth at low water in the berths, at spring tide, is 25 feet outside and 22 feet inside. There are eight electric cranes with a lifting power of 5 tons each and a reach of 35 feet. Being built on trolleys, they can be moved to suit requirements of positions of ships' holds, thus avoiding any movement of ships once they are berthed.

UNITED KINGDOM.

NOTTINGHAM'S DECREASED EXPORTS.

UNITED STATES PURCHASES LESS GOODS, EXCEPT OF LACE MACHINERY.

Consul Frank W. Mahin reports that the declared value of British exports from Nottingham to the United States decreased in the second quarter of this calendar year even more than during the first quarter, when the decrease in total value was 25 per cent, in value of lace goods 33 per cent, and in number of invoices nearly 25 per cent, in comparison with the first quarter of 1907. The consul's details follow:

The decline in this year's second quarter, compared with last year's, was nearly 40 per cent in total value, over 40 per cent in the value of laces, and nearly 30 per cent in the number of invoices. The decline was general this year through the entire list of articles of export, except lace-making machinery, which increased in value from $46,184 during the second quarter of 1907 to $74,105 in this year's second

quarter. Machinery also increased in the first quarter of this year in comparison with last year, indicating that the founding of lace factories in the United States is growing apace.

Exports from the consular agencies at Derby and Leicester declined 40 and 60 per cent, respectively, in this year's second quarter compared with last year's. The decreases were chiefly in salted sheepskins at Derby and raw wool at Leicester.

DEPRESSION AFFECTS VARIOUS INDUSTRIES.

The declared value of the exports from Nottingham to the United States during the fiscal year ended June 30, 1908, was $6,949,104; during the preceding fiscal year, $7,510,254. But with this exception, Nottingham's sales to the United States were greater during the past fiscal year than in any other year of this century. The decrease in the fiscal year 1907–8, compared with the preceding, was wholly in the last two quarters, and due, no doubt, to the financial crisis in the United States.

The value of lace exports declined during the year to $5,358,246, from $6,253,758 in the fiscal year 1906–7. The lace exports to other countries have also decreased, but in less proportion. Lace factories are generally working on short time and with only a part of their machines. Some of the manufacturers are in difficulty, but only one has failed. Signs of improvement have appeared in the lace market during the past month, buyers and mail orders having grown in numbers, and it is generally believed that the worst of the depression is now over.

The exports from Derby and Leicester decreased during the past year in about the same proportion and for the same reasons as those from Nottingham.

The hosiery industry is languid, though in better condition than lace. The most active among the great manufacturing industries of this section is boot and shoe making. The adoption of American styles and methods and favorable trade conditions are the causes.

TRADE OF BIRMINGHAM.

SHOWS A SHARP DECLINE AS COMPARED WITH FORMER YEARS.

Consul Albert Halstead, of Birmingham, makes the following report on trade conditions, in which he shows that the depression felt in that consular district is general throughout the United Kingdom:

For the first half of the year 1908 conditions in the Birmingham consular district were much less favorable than for the similar period of 1907, when business was active and the trade outlook was more favorable than it had been in years. Taking the industries of the district as a whole, the half year has been unsatisfactory, and manufacturers are disposed to look with considerable gloom upon the future, for each month has shown a less hopeful prospect.

The reductions in exports from the United Kingdom, as shown by official returns issued by the British Board of Trade of 9.15 per cent,

in imports of 7.91 per cent, and reexports of 23.76 per cent, while showing the depression throughout the Kingdom, give a fair indication of conditions in the Birmingham district.

EXPORTS TO THE UNITED STATES FALL OFF.

The fall in the values of exports from this consular district to the United States, noticed in the first quarter of the year, continued in the second. For the first half of the year the total value of exports was $1,196,703, a loss of $335,013 and of $351,469, respectively, compared with corresponding periods of 1907 and 1906. The number of invoices fell off by about 21½ per cent. For the Birmingham consulate alone the total value of exports for the first half of the year 1908 was $847,569, a reduction of $251,155.

Following are the values of the most important shipments from the district for the first half of 1908, showing the decreases compared with the first half of 1907: Needles $127.129, decrease $84,104; leather goods $66,123, decrease $20,823; chemicals $63,465, decrease $107,866; saddlery $51,407, decrease $39,746; pens $51,063, decrease $22,376; hardware $44,139, decrease $19,736; watch jewels $42,816, decrease $4,746.

In the following important shipments increases are shown for the first half of the year in comparison with the like half year of 1907: Fishing tackle $108,965, increase $12,235; fancy goods and small wares $102,851, increase $6,602; glass $100,233, increase $7,102; gloves $48,528, increase $38.610; cotton goods $42,282, increase $8,001; earthenware $24,869, increase $21,318.

GARSTON'S GROWING IMPORTANCE.

INCORPORATED WITH LIVERPOOL AND GOVERNED BY ITS COUNCIL.

Consul John L. Griffiths, of Liverpool, furnishes information concerning the growing importance of Garston as a shipping port, of which the following is a condensation:

Garston, a seaport on the Mersey, and about 5 miles from the center of Liverpool, with which it is incorporated, is of growing importance as a coal-shipping center, owing to its proximity to the manufacturing districts of Lancashire, Yorkshire, and the midland counties. There are now two docks in Garston, owned by the London and Northwestern Railway Company, but a third, under construction, will practically double the existing berthing accommodations. Being a railway port, goods are transferred direct from ship to car and from car to ship. When the new dock is completed vessels of 10,000 or 12,000 tons can be accommodated.

By improvements now in progress vessels will not have to wait for high tides, and night work can be carried on. There is a safe and well-buoyed navigable channel from Liverpool to Garston. The port has special arrangements for handling and storing lumber, especially heavy logs. A very large trade in sulphur, copper, manganese iron, and other minerals is conducted through the port. The imports at Garston in 1907 amounted to 666,000 tons, and the exports, including coal, to 2,738,131 tons.

FRANCE.

EXCEPTIONAL ADVANTAGES OF LILLE AS A DISTRIBUTING CENTER.

Consular Agent C. J. King furnishes the following information concerning Lille as a distributing trade center:

Lille, the center of a population of over 1,000,000 people, in close touch with 3,000,000 to 4,000,000 more of the Departments of Calais, Somme, Aisne, and southern Belgium, surrounded by numerous and varied industries, in proximity to the great coal regions of France and in the midst of intense agricultural developments, offers a good market for all kinds of manufactures and novelties.

England is already implanted here with hundreds of agencies and representatives, trading with southern Belgium and the foregoing-named departments. Germany is steadily gaining ground, by a system of easy payments and long credits, and is already competing successfully with American hardware supplies and machinery. No sooner does an American-made article for culinary use or mechanical purposes appear upon the market than a competing article is produced and undersells it.

Important dealers handling American-made goods have requested this office to be placed in direct relation with manufacturers in view of eliminating the profits of importing and exporting houses, and be thereby better able to compete with the products of other countries.

The handling of any product by too many intermediaries renders the profits too small for the retail trade, especially when competition is strong. Manufacturers anxious for export trade should bear in mind that articles for export must bear extra charges, such as transportation and customs duty, and if such articles are to be sold in foreign countries at the same prices as at home a much less profit should be looked for. Manufacturers and exporting houses very often lose sight of this, with a result that, if the article pleases the foreign trade and the price is too dear, means are readily found for producing a like article and the American product is shut out.

DENMARK.

AN IMPORTANT MARKET FOR MANY AMERICAN ARTICLES.

Consul-General Frank R. Mowrer, of Copenhagen, furnishes the following information concerning the products for which Denmark offers a good market:

The absence of natural resources in coal, iron, and timber and requirements of raw materials for manufacturing purposes indicate the general demands for imports into Denmark. These conditions afford an import market for many articles and supplies, in addition to the staple imports of cotton, flour, lumber, maize, oil cakes, and petroleum. This is supplemented in numerous lines by the limited supply of domestic products for food and general necessities.

These food products and necessities are generally sold by commercial travelers from Continental countries, who solicit the trade by exhibiting samples and meeting the demands for terms of payment.

In this competition the efforts made by the American exporter are not so effective, although the advertising matter sent into this district is attractively printed and illustrated. It is the practice at this consulate-general to make distributions of catalogues and price lists to the trade that may become interested, but it is suggested that direct correspondence would be more advantageous.

A list of necessities for import comprises the following articles: Breadstuffs (flour, oats, oatmeal, groats, grain, beans and peas, cocoa beans, rice, starch, etc.); fresh and evaporated fruits, cane sirup and canned goods, confectionery, jams, chocolate, and biscuit; provisions (barreled pork, tongue, bacon, edible oils, lard, and stearine); chemicals and colors (bleaching clay, blue vitriol, soda, zinc white, red oxide, sulphur, etc.); rosin and turpentine, industrial products of all kinds, machines, tools, etc., metals, quicksilver, etc.; raw cotton, feeding stuffs, woolen and linen goods, etc. [A list of the principal dealers in Denmark is filed in the Bureau of Manufactures.]

BELGIUM.

LARGE BEER IMPORTATIONS AND EXTENSIVE BREWERIES IN KINGDOM.

As to the prospects for the sale of American beer in Belgium, Consul H. Abert Johnson responds to an inquiry that it might gain a foothold by intelligent exploitation. He adds:

There is probably no country in the world, it is said, in which so many varieties of beer are sold as in Belgium, each important section of the country having its specialty in this line. Something above 200,000 hectoliters (5,283,600 gallons) of beer are annually imported into Belgium, mainly from Germany and England.

Beer may be classed as the national beverage of this section of Europe, as it is of Germany, and in recent years breweries have sprung up all over the country. There are 3,375 breweries, with an output of 16,400,000 hectoliters (433,255,200 gallons) per annum, in active operation according to the most recent statistics. Large plants have recently been erected for producing beers to imitate the famous German and Austrian brands, as well as the English ales and stouts.

CHINA.

COMMERCIAL REVIEW.

FOREIGN TRADE SLOWLY RECOVERING—SHARE OF THE UNITED STATES.

From the Imperial Maritime Customs Returns Vice-Consul Ernest Vollmer, of Tsingtau, furnishes the following review of Chinese trade in 1907:

The net value of the foreign trade of China in 1907 was 5 per cent greater than that of 1906, being $537,817,000. In the total trade Hongkong had over one-third, Japan following Hongkong, the United Kingdom coming third, and the United States, including Hawaii, fourth.

In 1907 China imported American products to the value of $29,153,000 and exported Chinese products to the United States to the value of $21,011,000, making a total Chinese-American trade of $50,164,000. Roughly speaking, this is three-fifths of the trade between the two

countries in 1905 and nine-tenths of the trade of 1906. It is considerably larger than the trade of any other year preceding 1905 of this century. [The official returns of the United States show imports from China in 1907, based on the value of the goods in China, of $34,424,684, and exports to China, based on values in the United States, of $23,097,310, making an aggregate trade of $57,521,994.—B. of M.]

YEAR OF SLOW RECOVERY.

In giving a résumé of the commercial activity in 1907, the official publication makes the following statement:

> The year has been one of slow recovery from the effects of the very general scarcity of 1906, amounting to famine over large areas; of the overtrading of 1905 and 1906, and, in Manchuria, of the late war. In the import trade caution has been the leading characteristic. Speculation on the future market, the chief error of recent years, has been largely avoided.

On the whole, crop conditions throughout the Empire were satisfactory. The stocks of foreign goods accumulated in the treaty ports have been largely reduced, but commercial classes are still awaiting some sign from the vast population of the country which will give them an indication of future conditions and warrant a resumption of active business along former lines.

The customs revenues of the country fell off 8 per cent as compared with 1906, and were lower even than in 1905, having decreased to $26,750,363. Decreases in revenue are shown in all ports north of Shanghai, with the single exception of Tsingtau, where a 9 per cent increase is noted. In the southern and Yangtze ports trade improved a little over the previous year. Thus the north of the country, in which the chief American interests center, was commercially in the least favorable state. Dalny, Antung, and Tatungkow were brought under the Chinese customs during the year, while Harbin has been opened already this season.

CARRYING TRADE.

In the carrying trade of the Empire in 1907 every European and Asiatic country and the United States were engaged. The entrances and clearances were as follows: United Kingdom, 27,495 vessels, of 33,316,618 tons; Japan, 29,296 vessels, of 15,598,697 tons; China, 33,772 steam vessels, of 11,598,197 tons, together with 5,000,000 tons of junk trade. The next, in respective order, were Germany, France, and Norway. The United States was last, with 549 vessels, of 1,045,899 tons. This is less than half the ships of 1902, but over twice the tonnage. Of these 549 steamer movements, 115 were entrances from foreign ports, 112 clearances to foreign ports, while 161 ships both entered and cleared for other treaty ports in China.

American firms in China are reported to number 115, and American citizens 2,862.

TRADE AT TSINGTAU.

IMPORTS AND EXPORTS IN THE FIRST QUARTERS OF PAST TWO YEARS.

Vice-Consul Vollmer supplies the following statistics of the foreign trade of Tsingtau during the first quarters of 1907 and 1908:

I transmit herewith statistics from the imperial maritime customs covering the imports and exports of Tsingtau (Kiaochow) for the

first quarters of 1907 and 1908. The figures do not show the decline which might be expected when the business depression of China is taken into consideration. It must not be forgotten, however, that the entire trade of the port, so to speak, is transit, being a movement of goods to and from the Chinese territory beyond this German colony. Thus, while the period in question can not be described as a good one from the standpoint of the merchants residing in the district, the railway has had large quantities of merchandise to carry. These goods represent mainly the imports and exports at one time handled over Chefoo, but now coming into trade via Tsingtau, owing to superior transportation facilities offered by this port.

IMPORTS AND EXPORTS.

Statement showing the imports into Tsingtau during the first quarters of 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Cotton goods:	*Pieces.*	*Pieces.*	Cotton goods—Continued.	*Pieces.*	*Pieces.*
Shirtings, grey, plain	94,213	105,897	Printed drills, furnitures, and twills	2,371	7,804
Sheetings, American	54,380	25,150	Printed T-cloths	24,742	11,741
English	5,550	6,340	Cotton Italians, plain	55,144	53,115
Indian	5,875	600	lastings	2,740	974
Japanese	5,200	.....	Italians, figured	11,525	11,680
Shirtings, white, plain	12,890	15,575	lastings	32,671	36,008
Drills, American	3,389	1,120	Dyed turkey red cambrics	4,376	12,238
English	585	215	shirtings	15,475	23,558
Japanese	1,400	540	Sheetings, Shanghai	.....	10,200
Jeans, American	3,220	1,425	Woolen goods:		
English	13,470	13,614	Lastings	632	410
T-cloths, 32 inches	98,111	64,990	Long ells	315	160
Japanese	4,620	5,400			
Lawns, white	760	80			
Printed chintzes and plain prints	8,038	13,064			

Cotton yarn to the amount of 5,353,915 pounds in 1907 and 7,710,542 in 1908 was imported from Japan, Shanghai, and India. Among the principal other imports were kerosene, of which American oil amounted to 821,873 gallons, against 398,510 gallons of Sumatra oil, in 1907. No American oil was imported in 1908, while 1,479,710 gallons of Sumatra oil were imported. The other foreign goods imported of any consequence were: Iron and steel, dyes, matches (from Japan), mining materials, railway plant and materials, etc.

The exports of Chinese products consisted of coal, ground nuts, medicines, cowhides, vegetable oils (ground nuts and bean), silk (refuse, pongees, yellow, and wild, 313,348 pounds and 214,360 pounds), goatskins, straw braid, walnuts, etc.

In the foregoing estimates no account is taken of goods imported and exported in Chinese junks.

TEA EXPORTS.

RUSSIA ONLY CONSUMES MORE THEREOF THAN THE UNITED STATES.

The following information concerning the foreign tea trade of China is also furnished by Vice-Consul Vollmer, of Tsingtau:

The United States, including Hawaii, is, with the single exception of Russia, the largest tea purchaser China has.

From figures of the Chinese customs service it is noted that the exports of tea to the Pacific ports of Russia are over three times the amount exported of tea from China to the United States, while a quantity equal to the purchases of the United States finds its way overland into Siberia, and another lot, of almost the same size, goes by water to ports in European Russia. Thus Russia consumes, roughly, five times the quantity of Chinese tea consumed in the United States. It must be remembered, on the other hand, that Formosa, Ceylon, and Indian teas are taken by the United States in a larger proportion than they are by Russia.

DESTINATION OF EXPORTS.

The total exports of tea from China to the United States in 1907 amounted to 268,986 hundredweights (30,126,432 pounds), not counting 3,806,400 pounds exported to the Philippines. Next comes the United Kingdom, to which about three-fourths the quantity exported to the United States were sent, followed by Hongkong, to which nearly one-half the quantity exported to the United States was sent, after which no country is credited with even one-tenth the quantity exported to the United States, the whole continent of Europe needing less than half the quantity sent to the United States.

While Russia takes nearly all her purchases in the form of brick tea and tablets, probably owing to the convenience of transportation in early times, the United States does not take an ounce of this class of goods, but confines its purchases to black and green teas in bulk. Tea dust is also unknown in our trade, the product finding its best purchaser in Great Britain, which took somewhat over a ton last year.

The following statement shows the exports of tea from China during the years 1906 and 1907, the exports for the latter year being the largest in a decade, save the years 1899 and 1903:

Description.	1906.	1907.
	Pounds.	*Pounds.*
Black	89,735,408	105,768,768
Green	30,900,912	39,543,728
Tablet	1,389,808	1,602,160
Dust	39,088	3,299,520
Brick	87,617,936	90,231,120
Total	209,683,152	240,445,296

KINDS OF TEA EXPORTED TO THE UNITED STATES.

The following statement shows the different kinds of teas exported to the United States in 1907, the quantities being given in pounds:

Black tea: Congon, 7,465,024; Oolong, 3,200,064; orange pekoe, 41,888; scented caper, 27,440; flowery pekoe, 4,928; Souchong, 4,144; Pouchong, 896; unclassed, 24,732; total black, 10,768,916. Green tea: Gunpowder, 15,411,840; Young Hyson, 2,482,928; Hyson, 1,396,528; Imperial, 50,736; unclassed, 15,484; total green, 19,357,716; total black and green, 30,126,432 pounds.

Recognizing the importance of the industry to the Empire, the Chinese Government has lately investigated it with a view to its improvement.

CHINESE TREATY PORTS.

LIST OF PLACES NOW OPEN TO FOREIGN COMMERCE.

The following list of Chinese treaty ports is stated by Consul Samuel L. Gracey, of Foochow, as containing the names of all places opened up to foreign trade to the present time, with something of the history of the opening of each port as to time of opening, and the treaty under which it was accomplished. It is the official Chinese list as recently completed and declared. It includes the places on the internal waterways, some of which are open only to passenger service, while others include cargo also (E. O. signifying "effectively opened," and A. O. "actually opened").

Port.	Province and location.	Year.	Under what treaty.	Remarks.
Aigun	Heilungkiang	1905	Japanese	E. O., June 28, 1907.
Amoy	Fukien	1842	British (Nanking)	
Antung	Shengking	1903	American	E. O., May 1, 1906.
Canton	Kwangtung	1842	British (Nanking)	
Changchun	Kirin	1905	Japanese	E. O., Jan. 14, 1907.
Changsha	Hunan (on the Siang River).	1903	do	E. O., July 1, 1904.
Chefoo (Yentai or Tangchow).[a]	Shantung	1858 1904	British (Tientsin) Imperial edict	E. O., 1861. E. O., Jan. 20, 1906.
Chinkiang	Kiangsu (on the Yangtze).	1858	British (Tientsin)	E. O., 1861.
Chinwangtao	Chihli	1898	Imperial edict	
Chowtsun	Shantung	1904	do	E. O., Jan. 20, 1906.
Chungking	Szechwan (on the upper Yangtze).	1890 1895	Additional British article (Peking) and Japanese (Shimonoseki).	
Dairen (Dalny)	Shengking	1905	Liaotung Peninsula transferred by Russia to Japan in Portsmouth treaty, August, 1905.	E. O., Sept. 1, 1906.
Fakumen	do	1905	Japanese	E. O., Sept. 10, 1906.
Fenghuangcheng	do	1905	do	A. O., June 28, 1907.
Foochow	Fukien	1842	British (Nanking)	
Hailar	Heilungkiang	1905	Japanese	A. O. June 28, 1907.
Hangchow	Chekiang	1895	Japanese (Shimonoseki)	
Hankow	Hupeh (on the Yangtze).[b]	1858	British (Tientsin).[b]	E. O., 1861.
Harbin	Kirin	1905	Japanese	E. O., Jan. 14, 1907.
Hsinmintun	Shengking	1905	do	E. O., Oct. 10, 1906.
Hunchun	Kirin	1905	do	A. O., June 28, 1907.
Ichang	Hupeh (on the Yangtze)	1876	British (Chefoo)	E. O., 1877.
Kiaochow (Tsingtau)	Shantung	1898	Leased to Germany	
Kirin	Kirin	1905	Japanese	E. O., Jan. 14, 1907.
Kiukiang	Kiangsi (on the Yangtze).[b]	1858 1861	British (Tientsin) German	
Kiungchow (or Hoihow) in Hainan.	Kwangtung	1858	British (Tientsin)	
Kongkun market	do	1897	Special article modifying Burmah convention, 1894.	
Kongmoon	Kwangtung (on the West River).	1902	British (Shanghai)	
Kowloon (Hongkong hinterland).	Kwangtung	1898	Leased to Great Britain.	
Kuangchowwan	do	1898	Leased to France	
Lappe	do	1898	Principal station of the Imperial Maritime Customs, near Macao.	
Liaoyang	Shengking	1905	Japanese	A. O. June 28, 1907.
Lungchow	Kwangsi	1886	French	
Manchouria (Manchuli).	Heilungkiang	1905	Japanese	E. O., Jan. 14, 1907.
Mengtze	Yunnan	1886	French	
Mukden	Shengking	1903	American	A. O., June 1, 1906.
Nanking	Kiangsu (on the Yangtze).	1858	French	E. O., 1899.
Nanning	Kwangsi	1897	Note from Tsungli yamen to Sir C. MacDonald of Feb. 4, 1897, supplementing treaty of 1897 modifying Burmah convention of 1894.	E. O., Jan. 1, 1907.

[a] Tangchow is the port named in the treaty, but Chefoo is the port actually opened.
[b] Hankow and Kiukiang were selected, by arrangement with the Chinese Government, in November, 1860, as ports to be opened under Article X of the British treaty of Tientsin.

Port.	Province and location.	Year.	Under what treaty.	Remarks.
Newchwang (Yingkow, the port).	Shengking	1858	British (Tientsin)	E. O., 1861.
Ningpo	Chekiang	1842	British (Nanking)	
Ninguta	Kirin	1905	Japanese	A. O., June 28, 1907.
Pakhoi	Kwangtung	1876	British (Chefoo)	E. O., 1877.
Samshui	Kwangtung (on the West River).	1897	Special article modifying Burmah convention, 1894.	
Sanhsing	Kirin	1905	Japanese	A. O., June 28, 1907.
Santuao	Fukien	1898	Imperial edict	
Shanghai	Kiangsu (at the mouth of the Yangtze).	1842	British (Nanking)	
Shashi	Hupeh (at the Yangtze)	1895	Japanese (Shimonoseki)	
Soochow	Kiangsu	1895	do	
Swatow [a]	Kwangtung	1858	British (Tientsin)	E. O., 1860.
Szemao	do	1895	French additional convention to commercial convention of June 26, 1887.	
Tatungkow	Shengking	1903	Japanese	
Tengyueh	Yunnan	1897	Agreement of 1897 modifying Burmah convention, 1894.	
Tiehling	Shengking	1905	Japanese	E. O., Sept. 10, 1906.
Tientsin	Chihli (on the Pei-ko)	1860	British (Peking)	
Tsitsihar	Heilungkiang	1905	Japanese	E. O., Jan. 14, 1907.
Tungchiangtzu	Shengking	1905	do	E. O., Sept. 10, 1906.
Weiheiwei	Shantung	1898	Leased to Great Britain.	
Weihsien	do	1904	Imperial edict	E. O. Jan. 20, 1906.
Wenchow	Chekiang	1876	British (Chefoo)	E. O., 1877.
Wuchow	Kwangsi (on the West River).	1891	Special article modifying Burmah convention, 1894.	
Wuhu	Anhwei (on the Yangtze)	1876	British (Chefoo)	E. O., 1877.
Woosung	Kiangsu	1898	Imperial edict	
Yatung	Tibet	1890	Sikkim convention	
Yochow	Hunan (at the mouth of Tungking Lake).	1898	Imperial edict	

PORTS OF CALL.

Port.	Situation.	Year.	Under what treaty.	Remarks.
Hokou	Kiangsi	1876	British Chefoo convention	On the Yangtze, for passengers and cargo.
Luchikou	Hupeh	1876	do	Do.
Nganking (Anking)	Anhwei	1876	do	Do.
Tatung	do	1876	do	Do.
Wusuëh	Hupeh	1876	do	Do.
Hwangchow	do	1898	Yangtze regulations	On the Yangtze, for passengers only.
Hwangtzekang	do	1898	do	Do.
Ichang [b]	Hunan	1898	do	Do.
Kiangyin	Kiangsu	1898	do	Do.
Dosing [c d]	Liang Kwang	1902	British Shanghai treaty	On the West River, for passengers and cargo.
Kumchuk	do	1897	British Burmah convention.	Do.
Lotinghau	do	1902	British Shanghai treaty	Do.
Paktauhau [d]	do	1902	do	Do.
Shiuhing	do	1897	British Burmah convention.	Do.
Takhing	do	1897	do	Do.
Fungchuen	do	1902	British Shanghai treaty	On the West River, for passengers only.
Howlik [c d]	do	1902	do	Do.
Kaukong [c d]	do	1902	do	Do.
Kulow [d]	do	1902	do	Do.
Lukpu [c d]	do	1902	do	Do.
Lukto [c d]	do	1902	do	Do.
Mahning [c d]	do	1902	do	Do.
Wingon [d]	do	1902	do	Do.
Yuetsing [c d]	do	1902	do	Do.
Yungki [c d]	do	1902	do	Do.

[a] Chaochow is the port named in the treaty.
[b] Not to be confounded with Ichang, the treaty port.
[c] Opened for passenger traffic in January, 1903, by the Viceroy of Canton at the suggestion of the British consul-general prior to ratification of treaty.
[d] The British consulate-general at Canton reported June 20, 1904, that all had been declared open by customs notification of March 1, 1904.

BUSINESS CONDITIONS.

SALES LIMITED BY THE INCREASED COST OF FOODSTUFFS.

Reviewing the prevailing conditions in China in 1907, Consul J. C. McNally, of Nanking, writes as follows:

The showing for 1907 is somewhat limited on account of the rapid and universal increased cost of foodstuffs, which engendered conditions that had a more or less depressing influence on trade. The fertile Yangtse Valley, usually relied upon to supply the living necessities to the interior provinces, failed in its expected function on account of the continued floods, which condition caused an unusual drain on the resources of other parts of the Empire.

The price of rice continued high, and but for the large crops in Indo-China, which relieved the situation, the strain would have been serious.

Dealers and operators have been conducting business on a very small margin, content to await developments that might encourage a more profitable and conservative expansion and at the same time work off the stock on hand, which proved larger than the demands of the market called for. Official returns, however, indicate that the outlook for trade in the immediate future is encouraging.

MANCHURIAN AND YANGTSE TRAFFIC.

The trade passing through the customs at the six ports in Manchuria and Chili (Antung, Tatungkow, Dalny, Newchang, Chingwangtao, and Tientsin) is shown by the following figures:

Description.	1905.	1906.	1907.
Net foreign imports	$84,585,352	$65,996,007	$70,056,439
Net native imports	35,706,931	36,120,537	20,496,456
Exports	23,843,441	30,517,330	31,871,897
Total	144,135,724	132,633,874	122,424,792

The 9 Yangtse ports (Chinkiang, Nanking, Wuhu, Anking, Kiukiang, Hankow, Ichang, Changsha, and Chunking) show their joint trade in the following figures:

Description.	1905.	1906.	1907.
Net foreign imports	$84,989,677	$77,371,832	$88,191,560
Net native imports	18,536,524	18,605,470	22,452,021
Exports	94,483,382	86,934,988	92,381,513
Total	198,009,583	182,912,290	203,025,094

The foregoing figures indicate the 1907 aggregate trade value to be greater than for any previous year.

At Chunking exports dropped to the extent of $20.000,000. Ichang registers a gain of $2,000,000 over 1906, while both branches of trade increased at Changsha by 40 per cent. Hankow shows a gain of $14,400,000, and that port seems destined to show even greater results in the near future. The trade at Nanking was satisfactory in all its branches, and while Wuhu gained in imports, the loss of

$2,800,000 in exports was more than an offset. Chinkiang also suffered a decrease in exports without any gain in imports. While the rice crop was good, the controlling high prices limited the exportation from these districts.

COTTON GOODS AND KEROSENE IMPORTS.

Among the usual imports into China, the only decided depression is in cotton goods, the total imports for the last three years being as follows: In 1905, $145,162,360; in 1906, $122,182,276; in 1907, $95,132,362. They formed about 40 per cent of all the imports in 1905, about 37 per cent in 1906, and 27 per cent in 1907.

The noticeable decrease is principally in the plain, cotton yarn. Plain shirtings, T cloths, drills, and jeans form a total of 9,786.025 pieces in 1907, against 20,247,223 in 1906, and 27,724,960 in 1905. This slump principally affected goods of American origin, as drills, sheetings, etc. The plain piece-goods importations were as follows during the past three years:

Description.	1905.	1906.	1907.
	Pieces.	*Pieces.*	*Pieces.*
British	13,548,025	10,785,227	8,224,951
American	12,566,093	8,544,165	578,647
Japanese	780,560	733,436	840,401
Indian	650,636	85,008	67,905
All other	179,632	.....	.....
Total	27,724,966	20,147,831	9,711,904

While the European countries show a slight decrease under 1906, in the general importation, that of the United States was $6,026,186, which, in view of the almost entire suspension of the piece-goods trade, is, as the official report says, surprisingly small, and points to compensating prosperity along other lines.

The importation of kerosene oil registered 161,284,355 gallons, being 32,596,665 more than in 1906. This increase was due to the importation of the American oil, which added more than 50 per cent to its previous year's figures. Of the two leading competitors, the Borneo fell off 1,011,004 gallons, while the Sumatra increased 316,259 gallons.

SALES OPPORTUNITIES.

GERMANS AND JAPANESE ACTIVE—MARKET FOR AMERICAN GOODS.

Consul McNally in another report notes the decline of American trade along the Yangtse River Valley, and alludes to the trade opportunities at Nanking as a result of the advent of the Shanghai-Nanking Railway. He says:

The latter part of 1907 and the early months of the present year have not been prolific of industrial or commercial activity within the consular district of Nanking. British trade in the Yangtse Valley is being lessened by the energetic competition of the Germans and the Japanese. In marketing their wares American business men are greatly handicapped. British, German, French, Japanese, and Chinese flags float from numerous boats plying the river from

Shanghai to Hankow. The heavy draft ocean freighters of these same nations frequent the port of Shanghai.

AMERICAN SHIPPING—RAILWAY STIMULUS.

On the other hand, the American flag is rarely seen on this river, where American shipping not many years ago was in close competition with that of England. The only thing left the American exporter is to establish a distributing depot at Shanghai, to which port the cities in the Yangtse Valley are tributary in matters of commerce, and have his goods distributed by carriers of other nations.

The new Shanghai-Nanking Railway will stimulate trade at the latter place, especially on account of closer communication and better freight rates. The officials of Nanking have under contemplation the establishment of small manufacturing plants. Already the native shoemaker, with a commendable power of imitation, turns out a good and cheap shoe, the chief drawback to his business being the poor quality of material used.

With the advent of the railroad many tourists are coming to Nanking and the costume of the westerner is pleasing to an ever-increasing number of the rising generation. American shoes and haberdashery especially appeal to them. They are also fond of horseback riding and bicycling, and the American saddle is a favorite. Staple American goods here are flour, condiments, canned meats, fruits, and vegetables. It, however, frequently happens that bright, tasty labels of British canned goods influence sales against the poorly labeled American goods.

EUROPEAN BUSINESS METHODS.

The increasing sales in local markets of European articles is due to the zeal of representatives in ascertaining what particular article appeals to the native merchant, and a willingness to cater to local trade demands.

To introduce goods into China without having a knowledge of the special wants of the natives is a hazardous undertaking. Representatives of British, German, French, and Japanese firms traverse the Yangtze Valley prepared to fill orders, however small, at an insignificant profit, trusting to do better later on. This system brings before the people the nature and quality of their goods, and enables them at the same time to investigate the possibilities of the market.

It must not be forgotten that the Chinese are usually suspicious of the business methods of the foreigner, and a certain confidence must be cultivated before they will enter into an important business arrangement. The European representatives are aware of this condition, and first visit the prospective buyer to gain his confidence without any hope of making a sale.

A German representative of a noted Cologne machine tool firm has spent eight months in China on a tour of investigation as to the possibility of introducing the firm's goods into the Chinese markets. He has gained a fund of valuable information as to the character of the local merchants, the manner of doing business, the nature and quality of the goods wanted, shipping facilities, and the financial reliability of the person selected to handle the goods.

The object of these representatives is to gain a thorough knowledge of conditions, so that when the demand comes they can conduct their business intelligently.

The markets for cotton goods at the principal ports seem to be glutted, and the present outlook in that line is not encouraging. The leading importers say that heretofore the foreign dealers were content to supply only distributing houses in the principal ports, but that lately they have undertaken to supply the smaller interior dealers direct, thereby closing a usual channel of distribution.

COTTON PIECE GOODS.

MARKET AT HANKOW—NO PROGRESS IN AMERICAN SALES.

Vice-Consul Albert W. Pontius, of Hankow, in a review of the trade of that Chinese city for 1907, says of the trade in cotton goods:

A general rise during the year 1907 was noticeable in all varieties of cotton piece goods. Heavy stocks that had accumulated in Shanghai, owing to a dull market in the north, were sent on here to supply the demand in Szechuan, which was good. Moreover, certain firms are beginning to hold stocks in Hankow instead of drawing on Shanghai. The difference in cost between Japanese drills and American drills, amounting to nearly 1 tael (79 cents) in favor of the former, caused a brisk demand in this article during the latter half of 1907. Owing to the fact, however, that the Japanese cloth is of an inferior grade the demand is bound to be short-lived, as the Chinese merchant always favors the better-grade article where only a slight difference in price exists and a much inferior brand is offered in competition.

In shirtings, gray, plain, the English manufacturers, as usual, had a clear monopoly of the field; they secured a total share of nearly $1,500,000, or more than 90 per cent of the whole of the entire trade, while the American cotton manufacturers of these lines contented themselves with sales of scarcely $52,000. The English manufacturers showed a large increase over the shipments of the previous year, the American remaining practically stationary. In sheetings, gray, plain, the English trade was also foremost, the imports from the United States amounting to $136,000.

STRONG BRITISH LEAD.

The American manufacturer made no showing in shirtings, white, plain, and figures, while the importations from Great Britain amounted to more than $1,700,000, or 90 per cent of the whole. The United States made the usual excellent showing in drills, taking 65 per cent of a total trade of about $850,000. In jeans the American manufacturer made a very poor showing, the importation dropping down to practically nil. A very small importation of American T cloth appeared during the year, and as this marks the introduction of a popular class of goods, the future is bound to show an increase in this line of goods.

The year in question showed only a small demand for cambrics, lawns, muslins, lenos, and balzarines, so the American manufacturers evidently lost nothing in ignoring this class of goods. Great Britain

made an excellent showing in printed and dyed cottons, the United States furnishing only a small share of this class of imports. Taking into consideration that the imports amounted to nearly $2,000,000, it seems strange that the American manufacturers do not give more time and attention to this line. A good trade in dyed turkey reds was experienced, Great Britain securing the bulk of the import trade.

The importation of cotton flannel showed a decrease, the American manufacturers as usual ranking foremost. American velvets show an increase over the preceding year, and a continued increase can be locked for by the American manufacturers. In cotton yarn the Japanese manufacturers secured about 40 per cent of the trade, Indian yarn ranking a close second. In mixtures, such as alpacas and lusters, union and poncho cloth, union and Italian cloth, woolen mixtures, camlets, cloth, broad and medium, lastings, plain and figured, and long ells, a profitable trade was enjoyed by the English, German, and Japanese manufacturers, the American manufacturer scarcely making any showing.

PIANOS IN SHANGHAI.

AMERICAN PIANOS DEARER THAN THE GERMAN AND BRITISH.

In reply to inquiries from an American manufacturer, Consul-General Charles Denby furnishes the following information concerning the piano trade of Shanghai:

During 1906 the total import of pianos and organs into this port amounted to $22,600 gold. What proportion of this amount represents the value of pianos alone does not appear in the customs reports, and consequently can not be ascertained. During the same year the value of pianos and organs manufactured in Shanghai was somewhat over twice that amount. The great bulk of the imported pianos come from Great Britain and Germany. American pianos, it is claimed, cost more at the factory than those brought from Europe, and pay heavier freight charges. At the present time there is only one American instrument in stock in Shanghai, a combination piano-organ. British and German pianos still have a fair sale in Shanghai, representing, possibly, one-third of the market. The other two-thirds of the pianos sold are locally manufactured. The only hope for the American manufacturer looking for a market in Shanghai lies in the production of a plain, substantial piano, suited to this climate, and sufficiently cheap to allow of its being laid down in Shanghai at a figure a little lower than that demanded by European makers.

The import duty on pianos brought into China is 5 per cent ad valorem, based on the market value of the goods in local currency. The terms on which the various dealers handle consignments made them by foreign manufacturers whom they represent differs in every case, and the best way in which to learn the terms of each particular firm is by direct communication therewith. [The names and addresses of piano importers and manufacturers at Shanghai, together with descriptions, prices, terms of sale, etc., of the different kinds of instruments manufactured locally or imported, are on file in the Bureau of Manufactures.]

JAPAN.

TRADE OF KOBE.

NOW FIRST PORT AND FIFTH CITY IN THE EMPIRE OF JAPAN.

In transmitting statistics, entitled General View of Kobe, prepared and issued by the Chamber of Commerce of that place, illustrating the phenomenal growth of what forty years ago was a fishing village, Consul Hunter Sharp comments thereon as follows:

The review shows that Kobe is now the first port in the empire, with a population not far from 400,000. Not only in the foreign trade, but still more in the coasting navigation, the tonnage entering and clearing from Kobe is largely predominant over Yokohama, despite the fact that the latter city was founded ten years earlier.

In the value of exports Yokohama leads, but in imports the case is reversed. The lead taken by the former city in exports is due to the silk trade, of which it still posseses the virtual monopoly. Silk runs into large figures, but occupies a small bulk; therefore, on turning to the actual tonnage of the exports and imports, Kobe is far ahead of Yokohama.

The exports for Kobe to the principal countries in 1907 were as follows, according to value: China, $15,000,000; the United States, $10,000,000; Hongkong, $7,000,000; the United Kingdom, $4,250,000; Germany, $3,375; India, $3,000,000.

The imports at Kobe from the principal countries were as follows in 1907: United Kingdom, $25,000,000; British India, $24,000,000; United States, $19,000,000; China, $13,000,000; Germany, $11,000,000.

The following statement shows the imports and exports of Japan in 1907, by ports:

Ports.	Imports.	Exports.	Total.
Kobe	$111,271,908	$53,120,796	$164,392,704
Yokohama	85,862,552	102,533,237	188,395,789
All other ports	49,110,280	59,687,577	108,797,857
Total	246,244,740	215,341,610	461,586,350

KOBE AND OSAKA DEVELOPMENT.

THE TWO GREAT SEAPORTS OF THE JAPANESE INLAND SEA.

With the advancing improvements of Osaka Harbor, a rivalry between that port and Kobe is springing up. Consul Sharp, of Kobe, transmits the following from an English newspaper published in Japan relative to the future importance of the two ports:

Osaka Harbor, on which $11,500,000 has been spent during the last ten years, is of little public benefit in its present unfinished condition. Should the proposed works be completed, it need not necessarily be at the expense of Kobe Harbor, as Osaka aims at developing the Chinese, Korean, and coasting trade, together with the business in raw cotton and other materials required by its manufactories, while Kobe is more concerned in the European and American trade. Thus the interests of the two ports may be supplementary in a large measure to each other, and both can grow side by side.

BRITISH INDIA.

LARGE INCREASE IN IMPORTS—EXPORTS NEARLY STATIONARY.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics concerning the value of the imports and exports of British India by principal articles during the fiscal years ended March 31, 1906, 1907, and 1908:

Articles.	1906.	1907.	1908.
IMPORTS.			
Animals, living	$1,647,150	$1,551,930	$1,469,871
Articles of food and drink, etc	48,620,186	5,238,426	57,115,658
Metals and manufactures of hardware and cutlery, machinery and mill work, railway plant and rolling stock, copper, iron, and steel, and other metals, etc	59,522,465	75,472,971	100,583,650
Chemicals, drugs, medicines, narcotics, and dyeing and tanning materials, etc	9,908,971	10,362,120	11,961,816
Oils:			
Mineral	7,453,519	8,089,890	10,515,125
Other oils	695,222	1,135,961	1,672,019
Raw materials and unmanufactured articles:			
Coal, coke, precious stones and pearls unset, silk, timber, etc	16,204,476	14,660,702	16,679,867
Cotton, manufactures of:			
Cotton yarn	11,417,995	10,743,864	12,310,816
Cotton piece goods	123,198,335	118,814,468	140,145,579
Other articles: Cotton, silk, woolen apparel, carriages and carts, glass and glassware, instruments, matches, paints and colors, papers, etc., and stationery, etc	64,965,235	67,809,104	80,475,298
Total merchandise	343,633,554	313,879,436	432,929,699
Gold	49,143,238	61,569,272	69,115,377
Silver	20,594,391	29,100,680	40,246,496
Government stores	30,098,904	29,782,050	22,140,375
Government treasure	105,503,377	148,599,321	140,908,735
Grand total	548,973,464	582,930,759	705,340,682
EXPORTS.			
Animals, living	644,609	754,392	719,546
Articles of food and drink, etc	141,083,874	134,121,454	148,915,413
Metals, and manufactures of:			
Manganese ore	1,438,037	2,362,760	2,863,134
Other articles	504,010	888,899	825,138
Chemicals, drugs, saltpeter, opium, tobacco, indigo, etc	38,161,302	38,524,610	36,793,168
Oils:			
Mineral (including wax)	683,639	490,913	835,927
Vegetable and other oils	2,039,112	1,837,774	2,024,654
Raw materials and unmanufactured articles:			
Jute, cotton, hides, etc.; silk, wood, timber, wool, etc	223,817,836	271,774,429	253,986,876
Cotton yarn	41,292,291	34,655,107	29,910,122
Cotton piece goods	6,219,573	5,512,202	5,458,253
Cotton, other manufactures	573,137	393,498	520,291
Jute	41,493,281	52,387,434	60,992,148
Silk, wool, apparel, coir, hides, skins, lac, etc	29,346,709	33,236,606	34,112,649
Total Indian merchandise exported	527,297,410	576,940,073	577,957,319
Foreign merchandise (reexports)	11,762,700	11,613,463	12,554,043
Total exports of merchandise	539,060,110	588,553,536	590,511,362
Gold	17,636,610	12,254,474	11,283,041
Silver	3,862,579	6,785,550	6,871,051
Government stores	391,961	359,701	424,040
Government treasure	30,067,495	17,483	7,573
Grand total	591,018,755	607,970,744	609,097,067

MISCELLANEOUS IMPORTS.

Of the miscellaneous imports, not specified in the foregoing table, information concerning the following articles are available which should, it is thought, be of interest to the American trade:

The number of clocks and watches imported into India in 1908 was 591,140, the average price being about $1.35. This class of imports varies.

The value of the imports of musical instruments during 1906 was $452,800; in 1907, $476,025, and in 1908, $1,436,635, thus more than trebling within a year. An examination of import lists shows that the large increase is due to the popularity of various kinds of talking machines, the bulk and best coming from the United States.

During 1906 the total number of motor vehicles imported into India was 698, valued at $328,000, and in 1907 the number imported was 748, valued at $456,276. Burma imported 85 motor vehicles. Four-fifths of the motors were received by Bengal and Bombay, and the major portion were of British manufacture.

The value of patent medicines imported into India in 1907 was $648,835, and of drugs and medicines, $3,060,695.

India imported in 1908 3,456 typewriting machines of various makes against 3,510 in 1907 and 2,478 in 1905. The average price of the machines was $68. The standard machines retail here at about the same as in the United States, with freight, cartage, and duty added—that is to say, for about $109.

The imports of finished umbrellas are falling off year by year as the manufacture of this tropical necessity increases in India. The Indian manufacturers, however, depend largely on imported fittings, and these have increased. The number of umbrellas imported in 1905 was 2,095,592 and in 1907 1,881,322, a decrease of 214,270, while the increase in value rose from $284,525 to $847,880. The umbrellas fitted together and partly made here are inferior in finish and shape to the American-made article. The fittings and suggestions of style come mostly from England and Germany.

Glass bangles for the wrist and ankles were imported in 1907 to the value of $1,766,660; common bottles to the weight of 3,112 tons and 13,000,000 superficial feet of sheet and plate glass were imported during the same year. A local trade paper calls attention to American glass-making machinery, simple in its design and economic in its working, and suggests the manufacture of these glass goods in India.

MISCELLANEOUS EXPORTS.

The following details of some of the leading exports of British India may be of interest to American importers:

The exports of opium from Bombay from January 1 to June 15, 1908, amounted to 8,677½ chests, leaving available for export 6,422½ chests. Most of the opium exports went to China.

The tea shipments from April 1, 1908, to May 15, 1908, were as follows: From Calcutta, 1,081,425 pounds, and from Chittagong, 860,344; from all other ports, 1,341,510 pounds; total shipments, 3,283,279 pounds, a decrease of over 1,000,000 from the exports during the same period in 1907.

The exports of jute and jute rejections and cuttings from Calcutta and Chittagong during the eleven months ended April 30, 1908,

amounted to 4,140,939 bales, against 4,463,740 during the same months in 1907. The destination of the jute exports in 1908 were as follows, in bales: United States, 293,173; United Kingdom, 1,550,117; Continent of Europe, 1,916,592; total, 3,759,882 bales. Rejections and cuttings: United States, 300,170; Europe, 67,420; all other countries, 13,467; total rejections and cuttings, 381,057 bales. The jute market in Calcutta is unsatisfactory, and the hope of a better condition of things depends on the American demand.

The shipments of hessians (burlaps) show a decline in the first four months of 1908 amounting to 47,000,000 yards. For April alone the shipments amounted to 32,000,000 yards against 65,000,000 yards for the same month in 1907. There is a strong feeling that when the United States begins to buy prices will advance.

CEYLON.

GREAT ACTIVITY IN COCOANUT-OIL EXPORTS—PRICES REMAIN LOW.

Vice-Consul W. H. Doyle, of Colombo, reports that the commercial phenomenon of a greatly increased demand for cocoanut oil, accompanied by greatly reduced prices, is discernible in a comparison of the figures representing the exportations from Ceylon during the first half of the current calendar year with the figures representing the same trade in the first half of last year. His review follows:

The quantity exported in the period January 1 to June 30, 1908, was 45 per cent greater than that exported in the same period of 1907. The price was approximately 45 per cent lower this year than in 1908.

The increased demand is in some part due to the new food purposes for which cocoanut oil is being employed, but in larger part due to the reduction of price. Cocoanut oil last year reached the record price of 585 rupees ($189.77) per ton. As the price increased the quantities purchased fell off, until in November last prices broke sharply, and at the beginning of 1908 oil was quoted at 350 rupees ($113.54) per ton. July 1 quotations were from 350 to 355 rupees per ton (of 20 hundredweight).

The price of 585 rupees was considered prohibitive by the large buyers, and they reduced their purchases to the quantities of immediate needs. The buyers remained out of the market until the stagnation in the trade had forced prices down to what they considered a reasonable level. They are now buying in greater quantities than ever before.

In the six months ended June 30, 1908, Ceylon exported 10,683.2 tons of cocoanut oil, as against 7,466.3 tons in the corresponding six months of the preceding year. These figures, while the only ones available for purposes of comparison, do not adequately indicate the present comparative activity of the trade as more than two-thirds of the oil exported this year has been sold since the middle of April. Exporters report that the demand is steadily growing.

LARGE AMERICAN PURCHASES.

Direct exports of cocoanut oil to the United States in the first half of 1908 amounted to 2,338.15 tons, as against 1,626.95 tons in the first

half of 1907. In addition to the direct exportations, considerable quantities are sold to London and subsequently to American buyers.

The practically stationary price of oil, in the face of the increased demand, may be attributed to the unusually large yield of cocoanuts which has continued since the end of last year. I am informed by the superintendent of a large cocoanut estate that at each plucking this year the trees have yielded three times the number of cocoanuts plucked last year. Thus, while cocoanut growers are not receiving the high prices of last year for their cocoanuts and copra they are earning even greater profits from the same number of trees.

Reports received here from all of the eastern countries are to the effect that the crop of cocoanuts is unprecedentedly large and that the prospects are for the continuance of large crops.

In the opinion of local exporters of cocoanut oil, the price will not rise appreciably, no matter how great the demand, while the cocoanut trees yield abundantly, as they do not court a repetition of the lean months which followed the checking of the demand by prohibitive prices.

[A list of the cocoanut oil exporters of Ceylon is filed with the Bureau of Manufactures].

ASIATIC TURKEY.

TRADE OF PALESTINE CHIEFLY WITH TOURISTS AND PILGRIMS.

The following statistics covering the trade and industries of Palestine are taken from the London Economist, furnished to that journal by a Jerusalem correspondent under date of June 8, 1908, who quotes largely from the British consul at that place:

Palestine is a small country and contains no large towns, and its trade chiefly consists in supplying the wants of 6,000 tourists and 18,000 pilgrims, who visit Jerusalem yearly. The consul, in his report for 1907, estimates Jerusalem at 80,000; Yafa, 40,000; Gaza, 35,000; Nazareth, 20,000; Hebron, 16,000.

Nazareth is in Palestine, but its port, Haifa, is not, which is an inconvenient arrangement. The population, too, is almost entirely agricultural, and in Jerusalem many of the Jews live on charity, so there is not as yet very much scope for trade. For 1907 the imports of Yafa were a little over £800,000 ($3,893,200), the exports something under half a million sterling ($2,433,250). Gaza, the only other port, imported £69,200 ($336,762) and exported £9,200 ($44,772). But the Yafa figures have nearly doubled in the last five years, and there are prospects of considerable elasticity. The consul remarks: "During a recent journey to Gaza I was struck by the fertility of the country. Even along the coast, where the sand dunes driven by the wind are apt to encroach on the land, fertile soil is found at no great depth. In average years the crops of this productive tract, which extends as far as Kan Younis on the Egyptian boundary, allow of an export of barley, chiefly to the United Kingdom, of from £200,000 to £250,000 ($973,300 to $1,216,625) in value." As in ancient days, the plain of Sharon is renowned for fertility. The consul says: The increase of population has naturally brought about a considerable augmentation of the imports. One reason for the large increase in the value of trade last year was the rise in the prices of the commodities.

Yafa's largest import is cotton goods—£267,670 ($1,302,616). Tobacco, hardware, timber, sugar, rice, flour, iron, and petroleum are moderately large items. The backward state of manufactures is shown by machinery only amounting to about £8,000 ($38,932), but none at all was imported five years ago. As might be expected, oranges lead the exports—£179,185 ($872,003). Soap is half as much, and sesame rather more than half of soap. Wine amounts to £33,850 ($164,731). Religious articles come fifth—£23,040 ($112,124). These are the chief industries of Bethlehem. The tonnage of Yafa is well under a million, but

40 per cent more than in 1903. It is, however, half as great again as the combined trade of Haifa, Acre, and Sidon. Gaza's import figures will probably increase, as a German line is establishing an agency there. Its largest item is £19,000 ($92,464) in Manchester cotton goods.

RAILWAY DEVELOPMENT—AGRICULTURE THE CHIEF INDUSTRY.

In two years a railway will be completed from Haifa, through Nablus to Jerusalem, which will make Haifa an important railway terminus, though it will be necessary to expend a good deal on the excellent natural harbor of that port. Coal is believed to exist near the Dead Sea, and a report is being made of the possibilities it affords. Except for wine, the manufactures of Palestine are practically nil, and it is probable that the people will always continue to depend on agriculture for their livelihood.

Agriculture varies considerably in different parts of the province. One report says: "The primitive methods of agriculture followed in this country are familiar through descriptions of numerous writers; it is difficult to see how they could be greatly developed in the neighborhood of Jerusalem itself on account of the underlying rocks. No improved plow could be used, as the soil is in most cases not deep enough." Indeed, it is most striking to see at the bottom of the Valley of Roses leading up to Jerusalem (although the rocky sides towering up look as if they could inclose nothing but stones and sand, and though there may be little or no water in the wadi) olives and all kinds of fruit trees and tiny cornfields flourish luxuriantly in the little deposits of rich soil. The consul adds: "Quite different is the rich plain of Sharon. Here water is generally to be found at no great depth; the soil is fertile, and with the extension of improved methods of cultivation (which are already being employed in the German and Jewish colonies), the production might be greatly increased. Wells are sunk, and the water is now generally raised by water engines, mostly petroleum. Upward of 500 such motors are now in use in the Yafa district."

STRAITS SETTLEMENTS.

COMMERCIAL REVIEW.

DECLINE RECORDED IN BOTH IMPORTS AND EXPORTS.

Vice-Consul-General George E. Chamberlin sends from Singapore the following summary of the foreign trade of the Straits Settlements for the first three months of this year:

The official statistics of imports and exports for the quarter ended March 31 show a decrease of imports into the colony of $2,806,762 and a decrease in exports of $4,235,815, as compared with the statistics for the first quarter of 1907. The total decrease in the trade of the colony from January 1 to March 31 therefore is $7,042,577.

Of the three ports of the colony, Singapore, Penang, and Malacca, the first shows by far the greatest loss, the imports falling off $2,425,983 and exports $3,705,614. Tin is responsible for the largest decrease in exports. During the quarter 14,763 tons of 2,240 pounds each of tin and tin ore were exported, at a value of $10,057,985. In the same quarter last year the figures were 14,219 tons, and $12,797,670 value, thus showing an increase in the export of tin from the Straits Settlements of 544 tons and a decrease in value of $2,739,685.

During the quarter 346 tons of Para rubber were exported, the value being $625,395, as against 201 tons, and $531,951 in value during the corresponding quarter of the previous year. While the increase in quantity was 145 tons, the increase in value was only $93,444.

The freight on rubber from Singapore has been increased from 50 shillings to 60 shillings (shilling=24⅓ cents) per ton of 50 cubic feet by the Homeward Shipping Conference, and the through rate from Port Swettenham, which previously stood at 65 shillings, has been increased to 75 shillings.

SINGAPORE A TRADE CENTER.

CHINESE ARE BONE AND SINEW OF THE COMMERCIAL COMMUNITY.

The following translation from an article on the Straits Settlements and Federated Malay States, published by the German Government, emphasizes the importance of Singapore as a distributing center for European and American manufactures and as a point of departure for the tropical products of that region; but the most instructive feature of the article for anyone desiring to understand the organization of commercial society in the Orient is the reference to the Singapore Chinese traders and their business methods:

Singapore owes her eminence as an import and export market to her position and to a liberal government policy. Besides a large number of smaller places throughout southern Asia, the East Indies, and northern Australia, such cities as Bangkok, Saigon, Batavia, and the Philippine Islands are largely dependent on Singapore. These cities get their manufactured wares from Singapore, and thither they send their raw or hand-made products for transshipment to Europe, to China, and to America.

The business man in commercial undertakings in this part of the world must know who the men are and what methods they employ in effecting the exchange of products in one of the greatest marts of the world. The Europeans control the wholesale trade with Europe, America, and Australia, and the Chinese and Indians control that with China and the East Indies.

THE CHINESE TRADERS.

Chinese merchants or middlemen are the chief buyers of manufactured wares from the local European wholesaler. These wares are distributed far and near to the large Chinese and native populations, from whom in turn are collected the raw products of the sea, the jungle, the plantation, the forest, and the mine, and brought to Singapore and disposed of to the European exporter. On account of their perseverance and skill in driving a good bargain in the purchase and the sale of goods the Chinese have become an important factor in the trade of the city. Almost the entire colonial trade of the Straits Settlements is in their hands; a considerable portion of this trade is with their own countrymen. These Chinese merchants are the connecting link between the wholesale importer and the individual consumers, and between the individual producers and the wholesale exporters. The small traders are chiefly new arrivals from the Celestial Kingdom. Their special characteristics are unperturbed pursuit of their purpose and adaptability to their surroundings. They drive a hard bargain with the Malay and still hold his confidence. They are as indispensable to the latter in the purchase of his raw products as they are to the European importer for the distribution of his wares. They are disposed to restrict their trade to articles for which there is an established demand, and make little effort to introduce new goods.

There are not a few cases where Chinese have become wholesalers both in imports and exports. They are strongly inclined to deal in futures, and on account of limited means often lose everything.

Although the Straits-born Chinaman, by virtue of his knowledge of their language and customs, understands the Malayans better than the recent arrival from China, nevertheless the latter handles the greater part of the retail trade; the former usually acts as middleman between the European wholesaler and banker on the one hand and the Chinese dealers who lack a full knowledge of local conditions on the other. He is also frequently a money lender, and the fact that he often figures as a partner in important commercial or industrial undertakings when he is only a money lender to the project adds much to the uncertainty and instability of Chinese trade. His inclination to deal in futures is responsible for the fact that Chinese fortunes frequently change hands and that many coolies are descended from millionaires.

The Chinese are also producers. In the tin industry they rank first, owning about 80 per cent of the mines of the Malay peninsula. They are also leaders in the production of tapioca, gambier, pepper, and pineapples. The preparation of sago for the European market and the canning of pineapples are monopolized by them. In the lumber and hard-wood business no other nation-

ality has a single house of importance. Just as the Chinese trader is the backbone of the colony's commerce, so is the coolie the backbone of the tin and plantation industries in the Straits Settlements and the Federated Malay States.

DEPENDENT ON CREDIT GIVEN BY EUROPEANS.

Siam receives 70 per cent of her imports via Singapore, and the latter city, next to Hongkong, is the heaviest purchaser of Siamese rice. This trade is carried on exclusively by Chinese. The Chinese wholesaler in Singapore buys manufactured wares from the resident European importer on two to three months' credit. He sends the wares to his customer, usually a business associate at Bangkok, in whose firm he holds an important interest. The Bangkok trader disposes of the wares, and with the proceeds purchases rice and other raw products from the native planters, and after hulling the rice, he forwards it to the wholesaler at Singapore, who sells it to the European exporters, and then settles for the wares he sent to Bangkok. It will be seen that the Chinaman thus carries on a lucrative business on the credit extended him by the European importer. The export firms on the other hand pay cash for the raw products they buy from the Chinese.

Next to Bangkok Palembang, of Sumatra, has been Singapore's best customer, but in recent times this trade has been on the decline. In 1903 the import trade was in the hands of Chinese, but since 1905, on account of their greater activity, the Indians and Arabs have taken the lead. A few European houses have established themselves in Palembang and are engaging in direct importation from Europe. Naturally, however, the city is still in great part dependent on Singapore, because the local houses can not compete with the Singapore houses in staple articles of commerce. Besides, the Arabs and Indians are satisfied to sell at a closer margin than their European competitors. Added to this is the fact that many of the local Arabian and Indian firms are controlled from Singapore.

THE ARABIAN TRADERS.

The Singapore Arabs do a purely commission business with affiliated firms in Sumatra, Java, and Borneo. They have no customers in the city, and have no stores or warehouses. The goods purchased from Singapore wholesalers are immediately shipped to their clients, upon whom they draw through the banks. They deal chiefly in cotton piece goods, of which the sarong is the most important article. Their chief customers are Malays and Javanese in the Dutch East Indies.

Borneo and the peninsula of Malacca look to Singapore for their imports and for the sale of their jungle and plantation products. Moreover by virtue of the coasting trade heading out from Singapore, they are closely bound to the latter city. The Chinese merchants of these districts are oftentimes branch firms of Singapore wholesalers, from whom they receive wares and rice for which they sometimes pay in cash, but chiefly in jungle and plantation products. Besides these are the small Chinese traders and shopkeepers who are dependent on the credit extended them by their countrymen in Singapore. The trade of the peninsula of Malacca is controlled exclusively by Chinese.

Usually the Chinaman in the Straits Settlements begins his business career in a small way. As an immigrant he brings with him enough money to purchase an ox cart full of goods, consisting of rice, salt, salted fish, tobacco, petroleum, matches, sugar, small manufactured wares, and pottery. With these goods he betakes himself to some remote native settlement and opens a shop. He deems it wise to distinguish between local officials and the rest of the population by granting to the former credit at his store. His shop is soon made the rendezvous of the natives who while away their time at his place of business and patronize him in a limited way. He trades his wares for jungle product at exceedingly advantageous rates. After he has accumulated half a dozen cart loads of valuable products he disposes of his shop and departs for the nearest shipping port, where he disposes of his goods and then settles down in some more pretentious business.

WILL THE CHINESE OR EUROPEANS WIN OUT?

The European tradesmen are asking themselves to what extent the Chinese will be able within the near future to destroy the present method of trade in the Orient by becoming direct importers from Europe and America. For some time they have been gradually entering into this import trade. The Chinese

employees of European houses learn business methods and the language of their employers and afterwards become competitors in the same line of business. Manufacturing and commission houses already send their traveling representatives to Chinese and other firms of Orientals. As far as Germans are concerned, such business relations have not been profitable. This development of new trade relations is continually forcing the European importers to content themselves with smaller commissions, while the native houses are growing more powerful and more dangerous as they are awakening to independent endeavor.

The Straits Chinese are not only engaged in trade, but in commerce. The Singapore and Perang Chinese are engaged in tin and other important industries. Nevertheless there is one essential distinction between their business methods and that of the Europeans. As yet the Chinaman can not bring himself to close a bargain with a stranger by mail or cable. He must trade with an acquaintance or one introduced and vouched for by a trusted friend. This conservatism is still evident with the wholesaler and the millionaire.

BRITISH NORTH BORNEO.

PROGRESS OF CHINESE CHAMBER OF COMMERCE AT SANDAKAN.

Consul Lester Maynard, of Sandakan, sends the following report on the organization of a Chinese Chamber of Commerce there for the purpose of better directing the development of trade in the island of North Borneo:

The organization of the North Borneo Chinese Chamber of Commerce was effected at Sandakan in December, 1907, and now has 130 members. The chamber will construct a suitable building for permanent headquarters and the government has been petitioned for the gift of a building site The declared purpose of the organization is the protection of the interests of the trade of the country; the collection and classification of trade information; the establishment of a court of arbitration to adjust commercial differences which may be referred to it, and correspondence with public officials and with other commercial organizations for benefit of its members and the development of trade.

A branch has also been opened at Kudat, of which Mr. Chong Nam has been appointed chairman and Mr. Lo Thean Cheok local secretary.

KONGO FREE STATE.

FUTURE OF THE HEART OF AFRICA—HOW AMERICANS MAY PARTICIPATE.

In view of the fact that the status of the Kongo Free State is now more definitely arranged and that its development is commencing, Consul-General James A. Smith, of Boma, has prepared the following review of the commercial aspects, and how Americans may best secure business in that vast region of mid-Africa with 900,000 square miles of undeveloped territory:

The Kongo may soon offer an opportunity for every independent trader to traffic freely with the natives in the rich commercial products of the country, consisting mainly at present of rubber, ivory, gum copal, palm kernels, and palm oil, the two latter being principally products of the lower Kongo. Under such circumstances it appears important that the American manufacturer should be informed, so far as is possible at present, of the opportunities which

will be found here to dispose of his goods and the best manner in which he can obtain a foothold, and to have clearly pointed out some of the difficulties he must encounter and overcome if American trade in the Kongo is to increase.

CLASS OF GOODS AT PRESENT IMPORTED.

Importations into the Kongo average at present, in round numbers, $4,000,000 annually. Of these the principal items, comprising, as will be noted, about 88 per cent of the total, are as follows:

Arms and ammunition	$178,000	Metals	$212,000
Clothing	251,000	Steamers, boats, and material for	278,000
Food products, mostly canned meats, vegetables, etc.	782,000	Tissues, mostly cotton piece goods	1,146,000
Hardware, enameled iron ware, etc.	156,000		
Liquors, including beer	336,000	Total	3,547,000
Machinery	208,000		

So far as the natives are concerned, who are the most important to consider because the bulk of future trade will be carried on with them, the items of greatest interest to the American manufacturer in the foregoing list are, in the order of their value, cotton piece goods, bleached and unbleached, prints and dyes; food products, consisting for the greater part of canned meats and vegetables, largely consumed, it is true, by the white population at present, but for which a demand can be created among the natives; clothing, the bulk of which is cheap underclothing, shirts, shoes, hats, and caps; hardware, of which an important part is enameled iron ware, plates, basins, various kitchen utensils, etc.

The remainder of the articles are for the larger part imported for use in building and opening up the country for the whites, construction and maintenance of railways, steamer lines, etc. The sale of alcoholic liquors to natives in the upper Kongo is forbidden by law.

PRACTICAL METHOD TO SECURE TRADE.

The question of methods to secure trade must be regarded from the standpoint of the interest of the American manufacturer and not of the individual small trader. There is but one practical way for the American manufacturer to secure and retain a foothold in this market, which promises results materially increasing American foreign trade here and which will eventually make the venture worth while. It is not likely that American goods will ever reach this market to any large extent except directly through an American company located here. Every trading house already established in the lower Kongo—English, French, German, Dutch, Portuguese, or Belgian—is interested, primarily, in pushing the sale of the goods of its own nation. The large concessionary companies are all Belgian, they purchase the greater part of their supplies in Belgium, and their barter goods are mostly Belgian. As a Belgian colony, the future administration will be interested first of all in encouraging and broadening the market for Belgian manufactures.

Geographical position and direct lines of steamers from almost all the countries named are other important factors favorable to their trade development here. For these reasons, I believe, there is but one practical and efficient way by which we can succeed in gaining a firm foothold here—namely, through the organization of an American trading house composed preferably of a combination of various

American manufacturers of or dealers in the different lines of merchandise it is found profitable to handle, and interested therefore before all in introducing and pushing exclusively American goods. A number of general stores should be established in favorable localities, with a central distributing warehouse and store at Leopoldville.

DISTRIBUTION OF SUPPLIES—COMPETENT SALESMEN.

The company should own and operate its own steamer or steamers on the upper river for the transport of its goods and distribution to the various stores established, as well as the carrying to Leopoldville of the merchandise received in exchange—rubber, ivory, etc. The network of navigable waterways furnishes the most convenient means of communication at present, but freight rates on the steamers belonging to the State are high and porterage "a dos d'homme" is slow and uncertain and must eventually be done away with entirely.

A thoroughly efficient and practical business man should be sent out to study the general situation, the wants of the natives, manner of packing goods for tropical countries, etc., and decide as to the most favorable localities for the establishment of the stores. The preliminary work would doubtless require fully a year's time. Cotton piece goods will form the principal article of commerce at first, but it would be unwise for the company to confine itself to any one line. Through contact with the whites the material wants of the natives will gradually increase, and the company must be prepared to supply these wants in every direction.

DIFFICULTIES TO OVERCOME.

In the absence of money as a circulating medium of trade, and the entire ignorance of the greater part of the natives in the upper Kongo as to its value or use, the trade in the beginning will be simply a question of barter. For this reason, perhaps, the greatest difficulty which a trading house will meet with at first will be to persuade the native to bring in his produce in exchange for goods offered. Some time must necessarily elapse and a constantly humane, just, and generous treatment invariably accorded the native before he will begin to realize the material advantages to be gained by himself in trading with the white man. Once he is certain of this the most difficult obstacle to trade will have been overcome.

An American house without experience in Africa will have to compete with English, French, German, Dutch, Portuguese, and Belgian companies, and in the eastern districts with Indian and Arab traders, many of them of long standing in the lower Kongo, familiar with the country and the ways of the natives, speaking the commercial language, etc. Many of these traders will doubtless enlarge the field of their operations in the upper Kongo. The Germans are already preparing for the opening up of the country to trade, as I learn that a German house at Matadi, backed by official encouragement, is to place a steamer at once on the upper river and commence operations by selling goods along the river direct from the steamer in exchange for ivory.

Another difficulty is the absence of direct lines of transportation. American sailing ships already, I believe, come to Sierra Leone and

the West Coast with cotton goods and petroleum, and their itinerary might, it would seem, be extended to the lower Kongo.

GENERAL OBSERVATION.

In the development of the country the native must necessarily play an important part. His labor is absolutely essential to the future welfare of the colony, and he will be the principal purchaser of foreign goods. In a colony of at least 20,000,000 blacks, who will be brought, as the country is opened up, more and more into constant contact with white civilization, and whose material wants will in consequence continually increase, the future market will be one of constant growth and practically unlimited extent. If the United States is to share in this market in any appreciable measure the present is the time to make a beginning. It is the man who is the first on the ground who will have the advantage in an experience gained in dealing with the native, and who will consequently secure the larger and more profitable share in the trade. The difficulties do not appear by any means insurmountable. Enterprise directed intelligently, patience, and tenacity are required here as everywhere else to secure and hold a market against active competition.

The opportunity is a grand one and should not be neglected. A consular officer can do no more than point this out. It remains for American manufacturers to take advantage of the situation and make a beginning here at the earliest possible moment. Details as to prices of cotton piece goods, etc., can not be given because, dependent as they are upon the cost of transport, they vary widely in different sections and have been, up to the present time, more or less arbitrary.

BRAZIL.

COFFEE EXPORTS FROM SANTOS INDICATE GENERAL TRADE CONDITIONS.

Consul-General George E. Anderson reports from Rio de Janeiro that the manner in which the falling off in the coffee crop of Brazil this year as compared with last year is to cut into the entire trade of the country, export and import, is indicated in figures for the several ports for the first five months of the current year, notably in the port of Santos, from which the largest amount of coffee is shipped. Mr. Anderson enters into the following details:

Figures for the port of Santos, measuring the export and import trade of São Paulo State, just issued by the Brazilian Bureau of Commercial Statistics in this city for the year up to May 30, 1908, as compared with the same period in 1907, show not only the immense falling off in exports which the coffee crop naturally gives rise to, but also to a notable decrease in imports as well.

The exports show graphically the particularly great amount of coffee sent to several ports last year in line with the valorization enterprise and the decreased amount sent under present and more normal conditions. The decrease in imports follows to some extent a decrease in the demand for goods needed in disposing of a great coffee crop, but there are also several notable changes to be noted, for example,

the marked decrease in imports of flour and the increase in the imports of wheat, which indicate the further development of the São Paulo milling industry.

IMPORTS BY COUNTRIES—DECREASE FROM UNITED STATES.

The Santos imports for the five months of 1908 were $15,401,980, as compared with $16,508,526 in 1907. The imports by countries were:

Country.	1907.	1908.	Country.	1907.	1908.
Germany	$2,611,389	$2,884,596	France	$1,105,646	$996,190
Argentina	2,283,567	1,920,780	Great Britain	4,163,666	3,934,347
Austria-Hungary	205,746	196,865	Italy	1,565,164	1,633,487
Belgium	513,269	565,087	Portugal	833,348	564,213
United States	2,278,983	1,590,294	Other countries	917,747	1,124,671

The loss of the United States so far in the year, accordingly, has been greater than the average loss. The imports by principal items were as follows:

Article.	1907.	1908.	Article.	1907.	1908.
Cotton and cotton goods	$1,189,432	$1,139,536	Jute	$936,408	$482,347
Iron and steel, manufactured and not manufactured	1,719,997	1,899,762	Coal	731,770	492,956
Industrial machinery	219,962	507,542	Kerosene	359,535	260,936
Agricultural machinery	73,074	94,582	Rice	42,092	4,996
Other machinery and utensils	199,456	1,133,673	Codfish	399,616	380,821
Chemical and pharmaceutical products	354,682	304,878	Flour	1,081,952	536,832
Leathers	260,395	300,390	Wheat	1,057,989	1,332,536
			Wines	1,310,671	1,108,186
			Other foodstuffs	1,193,282	1,098,472
			Money and specie	214,127	9,590

EXPORTS BY ARTICLES AND COUNTRIES.

The story of exports is, of course, told in the figures for coffee. The total exports for the period this year were $26,204,858, as compared with $43,193,665 in 1907. The principal items are:

Article.	1907.	1908.	Article.	1907.	1908.
Coffee	$42,994,171	$26,046,435	Mangabeira rubber	$55,918	$16,484
Salted hides	73,894	5,336	Bran	28,421	75,719

The amount of coffee exported from Santos during the period reviewed was 2,657,411 bags, as compared with 4,774,059 bags in 1907. The exports by countries were:

Country.	1907.	1908.	Country.	1907.	1908.
Germany	$7,553,666	$4,592,138	France	$7,371,470	$2,416,692
Argentina	370,795	342,610	Great Britain	2,325,464	134,206
Austria-Hungary	957,141	1,110,953	Holland	3,204,228	3,024,938
Belgium	9,109,492	1,145,311	Italy	212,176	296,589
United States	11,659,522	12,675,405	Other countries	429,712	465,016

The notable increase in the exports to the United States, in spite of the general decrease in exports and the decreased imports from the United States, even greater than the decrease in general, is quite in keeping with the general commercial relations of the two countries.

COLOMBIA.

A LARGE FIELD FOR THE DEVELOPMENT OF AMERICAN GLASSWARE TRADE.

The following information concerning the trade in glass and glassware in Colombia, and the opportunity which exists in that Republic for American manufactures, is furnished by Consul Isaac A. Manning, of Cartagena:

Recently a local firm imported a considerable consignment of glassware from the United States, ordered from the catalogue of a well-known factory located near Pittsburg, Pa. The goods proved very satisfactory, the order apparently having been filled carefully and from good stock. The ware was packed in hogsheads, very carefully, and arrived with little breakage. This shipment has given the importing firm good satisfaction and will no doubt lead to other orders.

While packing in hogsheads is all right for Cartagena and other cities on the coast, for the interior cities care must be taken in packing in barrels or crates not to exceed 125 pounds in weight per package for muleback transportation.

IMPORTS OF GLASS AND GLASSWARE.

The opportunity for the sale of American glassware in Colombia is very good and merits the attention of manufacturers. In this, as in the case of too many other manufactures, the United States does not hold the position to which it is entitled. For example, the imports of glassware into Colombia in 1907 amounted to 9,141 kilos (1 kilo = 2.2 pounds), of which only 319 kilos were from the United States, while 5,430 kilos were from Germany and 3,244 kilos from the United Kingdom. Of glass tumblers, 29,543 kilos were imported, of which 19,976 kilos were from Germany, 5,079 from the United States, and 4,286 kilos from France. Of glass marbles, 1,157 kilos were imported from Germany. France led in lamp chimneys, none coming from the United States. Of mirrors imported at Cartagena, 3,758 kilos were from Germany, and only 1,896 kilos from the United States. The imports of window glass amounted to 7,809 kilos, of which 4,500 kilos were from Italy, and only 601 kilos from the United States. Of empty bottles, 21,053 kilos were imported, of which 11,836 kilos were from Germany and 2,835 kilos from the United States.

HOW TO INCREASE AMERICAN TRADE.

It will thus be seen that American manufacturers of glass and glassware are not supplying a very great share of Colombian imports. It would seem as if they are completely overlooking an excellent field. It is possible they are doing what too many other manufacturers have done, and are still doing, sending out catalogues only, and wondering why orders do not reach them. It seems useless to continually dwell on the value of the "drummer" in the extension of trade, but if American glassmakers and other manufacturers making lines consumed here will begin sending their travelers to this and other Spanish-American countries the result will be a surprise to them. Occasionally a firm will place an order from a catalogue, but, with a houseful of catalogues on hand, one traveler, with a knowledge of the language of the country, a good line of samples, and a little push, will receive more attention and accomplish more in one day than catalogues will in a whole year.

CHILE.

LARGE REDUCTION IN CUSTOM RECEIPTS ON BOTH IMPORTS AND EXPORTS.

In reporting that the customs receipts of the Chilean Government for the first six months of 1908 show a loss of $1,872,861 gold, Consul Alfred A. Winslow, of Valparaiso, gives the following details:

The receipts for 1908 were $26,504,401, against $28,377,262 for 1907. The duty collected on imports showed a loss of $4,192,410, while from exports an excess of $2,319,548 was collected. The increased export duty collected is the result of heavy shipments of nitrate to Europe. There was a loss of $547,500 in import duties collected for June, over the same month of 1907.

The foregoing falls far short of the actual condition in the import business, since at the time of the beginning of the panic the custom-houses were crowded to overflowing, while now they are fairly well emptied. Stocks of merchandise in general in Chile are getting rather low, and it seems that there may soon be a fair opening here for business.

MEXICO.

CHIHUAHUA SHOE TRADE.

AMERICAN MAKES HAVE A STRONG FOOTHOLD ON MEXICAN MARKET.

Consul Lewis A. Martin, of Chihuahua, submits the following information and suggestions in regard to the trade for American shoes in that Mexican district:

Shortly after coming here it was observed that there were large stocks of shoes on exhibition in the various business houses of the city, and I had a desire to know whence the goods were procured. This being an inland consulate there were no statistics available, and it was determined to make a personal inquiry among the dealers to procure the data on the shoe business. This city is said to contain a population of 40,000 inhabitants, among whom is a considerable number of Americans, some Germans, and a few of other nationalities. This city, also, has large patronage from the mines in the surrounding country.

It was surprising to find upon examination of the different business houses handling shoes, that some of them have total sales of as much as $50,000 to $60,000 in a year, in gold. The concern selling the largest amount last year is exclusively a shoe house. Another large dealer in shoes, the owner of a department store, stated that his sales during the calendar year 1907 amounted to $53,944. These goods were practically all bought in the United States, principally in St. Louis, New York, Boston, and Lynn. Interviews with nine or ten of the principal dealers for the past year reveals an aggregate amount of $200,612, a good showing for this city, and they were all American shoes. A number of other small dealers in shoes, persons doing a mixed business, were not interviewed on the subject.

One or two houses stated that they had heretofore made a few small purchases from Spain, but that the shoes from that source did not take well in this market, and since that time they had confined themselves to the American makes.

One dealer said: "You can say that all the styles used in the United States are popular here." On the plaza, when the large

crowds of people are gathered there, one sees every variety of style in shoes which are used in the United States. Many men and women use the white canvas shoe, and also the different shades of tan, made principally from the vici, while great quantities of black shoes are worn, in plain black leather and patent. The better class of Mexicans, men and women, wear the finest and best to be had. The low-cut shoe is the universal favorite here, both in summer and winter. One dealer said that the Mexican young ladies were partial to the very high heels, adding: "You will not sell a medium heel to a Mexican girl of the better class, and many of the American ladies wear them, though most of the American women like a medium heel."

There is a shoe factory in this city that claims to have a capacity of 200 pairs daily, with a present output of 80 pairs. This firm makes only a cheap, rough shoe from Mexican leather. The capital invested is $37,500 gold; 35 hands are employed, all Mexican except the foreman, who is an American. The plant is equipped with American machinery. A small portion of their output is sold in this city. It is claimed for these shoes that they are very satisfactory with the laboring people, being strong, durable, and comparatively cheap. The production has been solely for men, but it is intended to enlarge the plant in the near future and include the manufacture of a finer article, and also make women's and children's shoes.

OPPORTUNITIES FOR TRADE EXTENSION.

The trade in shoes in this district is a growing one. Many of the natives are discarding the primitive footwear and adopting the American shoe. Many of the poorer people still wear sandals, consisting of a plain piece of leather or raw hide, fastened to the bottom of the foot by means of deer hide thongs. This is simply to protect the bottom of the foot from injury. These natives, however, when they see the better or wealthier class adopt a certain style of apparel, have a desire to follow suit; and, as the American shoe is used exclusively by the wealthier and better class of society, the others without doubt will follow their lead as soon as they are able to do so. Now is a good time to push the shoe trade in this section and American manufacturers and jobbers should make sure that they have a firm hold on the trade.

The matter of trade extension should not be confined to circulars or advertising matter, although some advertising is desirable. Formerly much of this literature came printed in English, which has no meaning to the average Mexican merchant. For Chihuahua it is recommended that these advertisements be printed in Spanish and English, say in parallel columns, describing the merchandise so that they may be intelligently read in either language. The best way to sell goods and enlarge trade in Mexico is to send effective salesmen who come in contact with the dealers here; men who speak both languages well.

SALES FROM CATALOGUES.

INCREASING IMPORTATIONS OF AMERICAN GOODS AT MATAMORAS.

Consul Clarence A. Miller, of Matamoras, gives the following examples of the successful introduction of American goods in that part of Mexico through catalogues:

Importation of machinery for the development of this district goes steadily on. Last year one company imported between $10,000 and $15,000 worth of machinery for the digging of wells and pumping of water, and this year the importations will be about the same amount.

A large boiler engine, 25 horsepower, has just arrived for the Santa Rosita ranch, which is about 9 miles above Matamoras.

During the past six months a considerable amount of household and office furniture has been imported from the United States.

The greater part of these sales is made through catalogues and correspondence.

As further illustrating the possible benefits to be derived from the sending out of catalogues attention is called to the following instance: A certain manufacturing company, having noticed a small item in the Daily Consular Reports early in June in regard to the importation of an American wagon and buggy, sent a handsome catalogue to this office. This catalogue attracted the attention of a gentleman of this city, who as a result is about to purchase a buggy and wagon. While catalogues are not as effective as salesmen, yet these instances serve to show that they still bring results.

As showing the increasing importance of this place in regard to importations, attention is invited to the fact that the Government has raised the custom-house in this city from the sixth to the fifth class.

SANTO DOMINGO.

OFFER OPENINGS FOR MANY ARTICLES OF AMERICAN MANUFACTURE.

In response to a letter of inquiry from a Tennessee manufacturer Vice-Consul Lithgow, of Puerto Plata, makes the following suggestions regarding the sale of certain articles of American manufacture in the Dominican Republic:

Household and office furniture is generally imported from the United States. However, considerable willow furniture comes from Vienna. Refrigerators are brought from the United States, but their sale has not been pushed. There is no need of heating apparatus here. The people cook with small charcoal stoves. Each stove holds one pot. If a bright traveling agent would come and introduce wood-burning ranges, teaching the people how to use them, it would be possible to sell quite a number.

Iron beds and springs are imported from the United States, Germany, and England. There is a good trade in them. Such articles as bath tubs, lavatories, kitchen sinks, and soil pipe are not generally used, but there is a good field here if properly introduced.

Agricultural implements are generally brought from the United States, with the exception of machetes and some hoes coming from Europe. Sawmills and woodworking machinery could also be sold here in a limited quantity. Boilers, engines, and tanks are imported in small numbers. For mining and sugar-cane cars there is a very small demand. Corrugated iron is used here for roofing, but it comes from England and Germany. The sizes of sheets used are 6 by 2½ feet and 3 by 2½ feet. The first weight mentioned runs 7 sheets to a hundredweight and the small size 18 and 20 sheets to a hundred-

weight. I think cornices, metal shingles, and steel ceilings, not now known here, could be introduced. Saddlery hardware should be a good article for import. Proprietary medicines and pharmaceutical preparations are imported in considerable quantities. Bituminous coal is only imported by the Central Dominican Railroad.

The declared value of imports through this port for 1907 was $1,617,651 and the value of exports $2,072,631. All catalogues sent to this country should be in Spanish. Orders of the merchants here are sent through New York commission merchants. [Names of the principal importers and of sugar plantation proprietors of the Puerto Plata consular district are on file in the Bureau of Manufactures.]

CANADA.

INDUSTRIAL CONDITIONS AT OWEN SOUND—TRADE WITH UNITED STATES.

The following information concerning the industrial conditions of Owen Sound, Ontario, and its trade with the United States is furnished by Consul A. G. Seyfert:

The industrial conditions in this consular district for the year ended June 30, 1908, were normal compared with the three previous years. The commercial depression has affected the industries but very little. Workingmen were employed on full time in the factories, sawmills, and cement plants, with good wages. The city is making extensive improvements on its streets and sewer systems, and gives employment to a large number of unskilled laborers.

The exports declared at Owen Sound for the United States during the three years ended June 30, 1906, 1907, and 1908, amounted to $296,597, $441,251, and $387,628, respectively.

The principal exports in 1908 consisted of lumber ($255,771), fresh fish ($59,834), lambs ($44,107), barley, cattle, household effects, rubber, and ties.

The leading imports into this consular district from the United States are coal, both hard and soft, hardware, machinery, dry goods, shoes, steel, and hard wood. The exact figures of foreign imports are not available, but 60 per cent of them comes from the United States.

TRADE EXTENSION.

SUGGESTIONS AND COMPLAINTS.

RUSSIA.

AMERICAN CASH DEMANDS VERSUS EUROPEAN CREDIT SYSTEM.

In transmitting a list of dealers or possible dealers in American goods in Russia, prepared at the request of a Western business league, Vice-Consul-General William Dawson, jr., of St. Petersburg, furnishes the following information for American manufacturers trading with or seeking trade in that Empire:

To do a successful business in this Empire, it is absolutely necessary that the difference in the general conditions which prevail in the United States and Russia should be taken into consideration by American manufacturers. The needs and tastes of the population of this Empire, which are quite particular, should be studied and an effort made to satisfy them. To try to force an article on the Russian market simply because it has been successful elsewhere, without adapting it to Russian tastes, is shortsighted and doomed to failure. But it is no less important that local business methods be understood and conformed to, and the distinctive feature of Russian business is long credits. It is unfortunate that just the opposite system should prevail with our exporters, and to extend trade they will have to abandon it in a certain measure.

CREDITS, TRADE LITERATURE, AND PACKING.

Of course, Russia is a great way off; the country is hardly known to many American business men and, on the whole, it seems much safer to demand payment against bill of lading in New York. But it must be remembered that in the eyes of the Russian trader the United States is just as distant, and to pay spot cash for a shipment that will not make its appearance before two or three months is, to say the least, disagreeable. It is a tremendous advantage which our exporters give to competitors who offer the liberal credits in use throughout Russia. In the case of agents, at least a six months' credit should be accorded, in order to allow them to place a portion of the order before payment. A three months' credit does not suffice, as the goods are often that length of time under way. Naturally, credit must not be indiscriminately thrown away, but after reasonable precautions have been taken, in dealing with reliable firms more liberality must be shown.

In preparing literature for the Russian market, quotations ought to be given in Russian currency and Russian units used throughout; where possible, the Russian language should be employed, and this is indispensable where an appeal is made direct to the consumer.

In laying articles before agents, however, German offers a satisfactory substitute, that being, after Russian, the commercial language.

In general, more attention should be paid to this phase of foreign trade; exporters should distribute pamphlets and circulars more freely and endeavor to get and keep in touch with the market. As a rule, Russians are very appreciative of small favors.

American houses should use the greatest care in packing shipments to provide against deterioration or possible loss of parts. The sea voyage is very hard and in most cases goods are transshipped in some port of Western Europe. Some exporters have been unfortunately remiss in this respect. The most scrupulous attention to orders is indispensable, as one misunderstanding is remembered and talked of where two well-filled orders pass unnoticed. Where cash is demanded in advance, carelessness is quickly construed into bad faith.

INTRODUCING GOODS—GERMAN VERSUS AMERICAN TRADE.

A method of introducing goods which has met with no small success is the so-called technical bureau. Several firms open up a bureau, in some large industrial center, for the purpose of explaining complicated machinery to prospective buyers. Where it is desired to familiarize the market with machines of which it has no knowledge, this system possesses obvious advantages.

Germans make it a point to suit Russian tastes and needs down to the smallest details; they offer the greatest facilities to purchasers in the matter of credit; they cover all Russia with literature printed in Russian; as a result, out of the total imports into Russia in 1907 of $358,557,000 no less than $160,369,000 came from Germany, while the imports from the United States during the same year were only $27,444,000, which shows that it is time our business men displayed more liberality and less indifference.

In addressing Russian firms, attention is called to the following: Ulitza means street, and pereulok—written per.—and ploshtschad mean square; consequently, where these words appear in the addresses given anything further is superfluous. As a matter of fact, even these words are quite commonly left out and letters are addressed, Nevski 21, the number always following the name of the street. Where addresses are in German, as in Riga, the street may be written in one word or in two. [The list of addresses may be consulted in the Bureau of Manufactures.]

WARSAW COMMERCIAL EXPOSITION.

CLOSER FOREIGN BUSINESS RELATIONS ARE SOUGHT BY RUSSIANS.

Consul Hernando de Soto gives the following account of permanent sample rooms to be opened at Warsaw for the display of foreign and Russian manufactures:

The marked increase of business activity since the beginning of this year, and especially the tendency to establish regular, direct relations with foreign countries, has prompted a number of leading business men to make an effort to establish at Warsaw a permanent exhibition of samples of local and foreign manufacture. The committee of this undertaking has addressed a communication to the consulate, the principal points of which are as follows:

The increased demand for foreign-made goods in Russian Poland has made it imperative to find the best method of importing goods at the lowest possible figure. We have gone over the ground with the greatest care and have ascertained that a large percentage of our tradesmen have, until now, been satisfied to make their purchases through European commission houses instead of com-

municating direct with the foreign manufacturer. It is evident that this method seriously enhances the cost of purchase. A Polish buyer seldom travels to the principal European manufacturing centers and, therefore, has a very limited knowledge of what the foreign market can produce or offer. He waits until the selling agent of some foreign house comes along and frequently allows himself to be led astray by unscrupulous speculators, who, in order to secure large profits, will sell inferior goods of one country, making him believe that he is buying a well-known make of superior quality from a certain other country.

TO COMMUNICATE MORE DIRECTLY WITH MANUFACTURERS.

In order to offer our tradesmen every facility and opportunity to place their orders direct with the foreign manufacturer, it is proposed to open, in Warsaw, as soon as possible, a permanent exhibition of samples of foreign make. The local manufacturer will be given an equal chance to exhibit his products in competition with foreigners.

In connection with this exposition it is proposed to open a commission agency for negotiating between parties, and an information and inquiry office for supplying both manufacturers and buyers with accurate information as to the standing of both foreign and local firms.

Such an institution, based upon the mutual support of foreign producers and merchants as well as our own, will unquestionably greatly contribute to the increase of our import and export trade.

The control should be in the hands of thoroughly competent men whose honesty and integrity are beyond question. To insure the maintenance and upkeep of the exposition, as well as of the commission agency and information bureau mentioned, producers and merchants must pay yearly a certain sum for exhibit space, a commission on transactions made, and a stated fee for information supplied. The sum necessary for the Government deposit as security for any transaction made through the institution, amounting to 25,000 rubles ($12,500), as well as sufficient funds for the initial cost of inauguration and maintenance, will, it is suggested, be secured by forming a company with a capital of at least 50,000 rubles, which could afterwards be turned into a limited liability company in accordance with the increase of its transactions.

The scheme has been submitted, for approval, to the president of the chamber of commerce in Warsaw. We will thank the American consulate if it will acquaint the leading commercial circles in America accordingly and encourage American manufacturers to rent spaces for the display of their products.

AMERICAN OPPORTUNITIES—LONG DELAYS UNDER PRESENT METHODS.

The consuls of the other countries have taken great interest in this undertaking, and I am reliably informed that the Austrian representative, with the support of his Government, has guaranteed a portion of the fund to be raised.

The plan is an excellent one. The numerous reports sent from this office during the past months clearly demonstrate that there is an exceptional demand for American goods in Warsaw. Many obstacles with regard to the importation of American products will be overcome.

One of the most serious drawbacks which have recently been noticed, is the long delay before exact quotations can be obtained from the United States. In spite of the special request, in a former report on trade opportunities, for quotations c. i. f. certain European ports, catalogues without prices have been forwarded, accompanied by a letter saying, "prices and discount sheets on application."

Considering that mail from Warsaw to the United States travels an average of fifteen to seventeen days, it takes five weeks to get a catalogue, usually without prices. The party interested is compelled to write for particulars, thus involving another delay, making about 2½ months before a first order can be given. For example, on April 6, a special report on demand for ice-making machines was forwarded, for which the interested party expected to have a ready sale

during this summer. On June 1 a number of catalogues were received at this office, all of which, excepting one, were without prices. It will take fully thirty-five days to obtain quotations, and before goods can be received the summer will be over.

Full particulars in regard to the date of opening of the exposition and price for space will be given as soon as possible.

SWEDEN.

AN APPEAL FOR CLOSER CONNECTIONS IN OUR TRADE RELATIONS.

Consul W. Henry Robertson, of Gothenburg, makes the following report on the importance, to American exporters, of having Swedish agencies and making direct shipments to that country:

By far the most serious of several obstacles to a material increase in the sale of American products in Sweden is the antiquated custom of exporters of the United States of dealing with this growing and prosperous country through agents in Copenhagen and Christiania, instead of selling and shipping to it direct, as do all other countries. It is time these methods of business should be readjusted to meet a situation that has radically changed. Manufacturers and exporters should personally visit those countries in which they deem it worth while to attempt to introduce or increase their trade, in order to keep abreast of the changing exigencies of a market.

With the limited transportation connections existing many years ago between the United States and this part of Europe it was natural that American goods should reach the customers of Denmark, Norway, and Sweden through agencies created at the large seaports of England and northern Europe. As these connections converged toward Germany and Denmark, Copenhagen obtained, and still enjoys, the bulk of the business of distributing American products in Scandinavian countries. Christiania has successfully competed for a portion of this business, more especially since the steamers of the Scandinavian-American line began touching at that port.

This condition of things is detrimental to our trade with Sweden, and is rendered unnecessary by the system of shipment under through bills of lading.

American exporters would quickly see a great difference in their favor if they would assign the territory of Sweden itself to Swedish representatives at Gothenburg or Stockholm.

OPENING FOR NEW BUSINESS CONNECTIONS.

Another serious objection to selling to Sweden through general agencies at foreign ports is the unnecessary expense that is incurred for the profits of these middlemen and the reshipment of the goods. This affects unfavorably both the profits of the American exporter and the purchasing power of the Swedish buyer, besides often causing quite needless delays in delivery. This happens chiefly in the cases of foodstuffs, flour, pork, oils, and dried fruits, in which certain American concerns enjoy a large trade. It would be a great advantage to American trade if some younger and smaller concerns would embrace the opportunity now offered to enter the Swedish field. They

would not only sell all the goods that are now bought from the United States, circuitously, but they would undoubtedly sell a great many more. What is far better, they would get in direct touch with the Swedish people themselves, their business methods and preferences, and the opportunities of their market.

It would be an excellent idea for American firms expecting to do an export business in any line to file with the Department of Commerce and Labor a clear statement of their financial responsibility and the articles in which they are to deal. There are many foreign importers who are alert for securing the direct representation of new and enterprising concerns, but the difficulty is for them to learn of the inauguration of such new ventures. They are perfectly willing to enter into competition with the older and larger concerns in the foreign field, and the Department of Commerce and Labor could perform an excellent service by bringing these exporters and importers together.

HOW TO GET THE TRADE.

Reference has been made above to the great importance to exporters of a personal visit to Sweden, not only for studying its markets, but for selecting representatives or purchasers here of unquestionable standing and reliability. This being done, there should be no good ground for refusing the credits that are usually accorded here. The American practice of selling for cash against shipping documents is not approved here, as the Swedes, just as other people, like to see what they are getting before they pay for it.

In view of the increasing freight and passenger traffic both ways it can only be a comparatively short time before there is a direct line of steamers between Gothenburg and the United States. Gothenburg is the leading export and import center of the Kingdom; it will undoubtedly be the Swedish terminus of a steamship line to the United States; it already possesses direct lines to the Mediterranean, Africa, Asia, Australia, and South America; its harbor, unlike that of Stockholm, is open the entire year, and its geographical situation makes it the logical distributing point for American goods.

NORWAY.

EFFECTIVE MEDIUMS FOR THE ENLARGEMENT OF AMERICAN TRADE.

Consul-General Henry Bordewich, of Christiania, furnishes the following communication concerning the introduction and enlargement of American trade in that Kingdom through Norwegian commercial agents:

The commercial agents of Norway form a very important link between buyer and seller. No one understands this better than the Germans, who, besides sending traveling salesmen frequently and in large numbers to Norway, have secured representation by a large force of resident agents in all parts of the country.

While some of the agents undertake to introduce any new article which they think may find a market, the majority of them confine their efforts to one or two lines of merchandise. Some goods are very

difficult to introduce in a new market, unless by personal offer and by display of samples. If Americans would make more use of agents, I believe more goods would be sold.

A written contract should be made between seller and agent. In this contract should appear clear stipulations regarding agent's rate of commission, his extent of territory, his responsibility for payments for goods sold, and other matters. Some firms look to the agent for their pay, others solicit orders through him only, making their own collections from the buyers, through banks or otherwise. In the latter case the agent may be obligated to guarantee the solvency of the buyer or not, as may be agreed upon. If valuable samples are furnished the agent, a clause may, if found desirable, be inserted in the contract to the effect that such samples are and shall remain the property of the house represented by the agent until paid for.

A great variety of goods are handled by agents in Norway. The Christiania agents have formed an organization of their own, they have enacted their own code of by-laws, and they hold regular meetings. Agents make calls as often as found practicable at the offices of the wholesale dealers, soliciting orders. They frequently visit other towns in the country, and many of them employ subagents. [A copy, in English, of the by-laws of the Christiania Agents' Association is filed in the Bureau of Manufactures.]

FRANCE.

PRACTICAL ADVICE TO AMERICAN MANUFACTURERS AND EXPORTERS.

Consul Alphonse Gaulin, of Havre, France, has compiled a list of the principal importers and merchants of that city, classified according to the business in which engaged, and which he has had printed for the use of manufacturers and merchants of the United States who may inquire for such information. The consul has also prepared a circular which he sends to American inquirers for commercial information, advising as to methods of procedure in dealing with French business men, from which the following paragraphs are taken:

1. Correspond in French.

2. Business, on a very limited scale, may be established by correspondence. But it can neither be kept up nor increased by letter writing any more than it can in the United States.

3. If you send catalogues to France, have them printed in the French language, with prices in francs, and weights, dimensions, and measurements in the metric system.

4. Do not expect to sell goods on banker's credit or cash upon the delivery of documents. In France long credits are the rule rather than the exception. Ninety days is the usual time given and expected by foreign houses.

5. Do not solicit orders unless you are in earnest and have made up your mind to establish a permanent trade. Do not seek foreign markets only in times of business depression in the United States. Such occasional attempts will yield you no substantial results; but they may prejudice against and work irreparable injury to American exporters.

6. More energy is required to introduce goods abroad than at home. The firms that send commercial travelers to France, and establish agencies in this and other European countries, are the ones that succeed. The others get few returns.

7. Fill all orders promptly, and in strict compliance with specifications. Give your customers exactly what they ask for, at the time and in the manner which suits them best.

8. Make sure that the goods will reach your customers in the best possible condition. Careless and insufficient packing of merchandise has hurt American trade abroad perhaps more than anything else. Place specially trained men in charge of your packing department.

9. Quote prices f. o. b. shipping port, or c. i. f. port of destination. It is not essential to quote prices duty paid. The French merchant prefers to pay the duties himself. Moreover, in France the duty may be, and often is, raised or lowered on a single article at very short notice, so that a shipper who counted upon paying a certain rate might be obliged to disburse much more than he bargained for.

MOROCCO.

SUGGESTED PLANS FOR CONCERTED AMERICAN COMMERCIAL EFFORTS.

Vice-Consul-General George E. Holt, of Tangier, submits suggestions as to how Americans may secure trade in Morocco. Judging from inquiries received at that consulate-general he thinks there exist many exporters in the United States who are sincerely desirous of extending their field of activity, but that conditions in Morocco are so different from those in most countries as to make impossible the application of ordinary export methods. Mr. Holt writes:

After somewhat minute study of Moroccan trade conditions I am convinced that, although there may be other ways of securing the same results, the most effective, simple, practicable, and, above all, quickest plan by which American manufacturers may secure a share of the import trade of Morocco is by the establishment at Tangier of a general representative who, for a small guaranteed salary, would serve as agent for any or all manufacturers who desired representation here. His salary might be guaranteed either by some one of the big and progressive associations which have as their watchword the extension of American trade, or by a number of manufacturers combining to guarantee him a fair remuneration, which could be augmented by equal payments from such other manufacturers or exporters who wished to take advantage of his services. In addition to this a certain commission might be allowed upon all goods sold, inasmuch as the initial salary guaranteed would probably be merely nominal.

GENERAL EXPENSES.

Knowing what conditions are here, I should suggest that a yearly salary of $1,500 to $2,000 be guaranteed in case the arrangement is made by a club of, say, 10 manufacturers; whereas if any one of the commercial organizations wishes to take up the matter, it is suggested that the same amount be guaranteed (for a period of one year at least) and that any manufacturer or exporter wishing to take advantage of the representation pay a certain sum to the association guaranteeing the salary, of which after the association had been reimbursed, one-half might be allowed the representative in addition to his guaranteed salary.

This would be desirable, owing to the fact that each additional representation would mean for the agent increased expenses and increased labor.

It would be unnecessary to allow for any considerable expense until the value of the arrangement had been demonstrated and the representative had clearly shown his ability to work for the interests

of American trade and to invest funds where they would bring satisfactory results. Probably one-third of the stated salary would be expended for rent, light, postage, advertising, samples for comparative purposes, etc.

CREDENTIALS AND TRADE PROCEDURES.

Such a representative could be put under bond, thus protecting the American manufacturer who sends goods on consignment, as would be absolutely necessary, and creating a feeling of absolute trust in the representative and such requisitions as he might make. Such a representative should have the strongest credentials which could be supplied him, as the representative, as well as agent, of American manufacturers generally. It would be desirable that he have at heart the interests of all American exporters, but he would, quite naturally, work especially for the interests of the concerns who contribute toward his employment.

It would be possible for him to rent a store or "magazin" of a sort adapted to his first needs, in which could be displayed samples, advertising matter, and the goods sent him on consignment. The value of such a "magazin" can not be overestimated, as Moroccan merchants not only do not know American goods or American exporters, but they have been trained to buy from samples by European firms, of which all of any importance have magazins and representatives here.

With such a representative in Tangier, a hitherto almost barren field would soon show signs of fertility, this opinion being based upon the success with which European firms meet when they have an agent on the ground, and the success with which an American oil company, the only American concern doing business in Morocco, has met through the agency plan. It is certain that business can never be secured here through catalogues which can not be read, and correspondence from people who know little about either Morocco or its people. The consensus of opinion of those who have tried—and failed—proves this beyond question.

GRANTING OF CREDIT—LINES OF GOODS.

One of the greatest drawbacks to American trade is the fact that exporters are not willing to grant credits, probably owing to ignorance of conditions here. The presence of a representative as suggested would make it possible for him to fully establish the standing of firms or individuals who wish to buy American goods, and to make invaluable suggestions for the allowance of credits. There are, to my positive knowledge, many firms here of absolute reliability, highest rating, and best of bank references who would, they say, buy American goods could they get from American exporters the credit which they receive from European merchants. Demand for credit does not mean intention to defraud; in most cases it means that it is customary in the country from which the demand comes, and when the United States is in the position of seller it should adapt itself as far as possible to the desires of the buyers. Business methods here are entirely different from those in the United States.

In the selection of a representative such as I suggest, great care should be used. He should be, if possible, an American, having the highest references, and at the same time a man who is broad-minded enough to understand the character of the people with whom he would have to deal. In addition to this, it is an absolute necessity that he should have lived in the country for a while, learned the ways of life and business, and have at least an elementary knowledge of one of the languages is general use here—Spanish or French. preferably the former.

As a suggestion of what lines would probably find the best opportunities here, the following list is submitted:

Builder's hardware.
Pumps.
Irrigation machinery.
Clocks and watches.
Boots and shoes.
Men's furnishings.
Books.
Stationery.
Office supplies.
Drugs.
Grain.
Coal.
Tents.
Garden tools.
Whisky and liquors.
Candles.
Cotton goods.
Coffee.
Tobacco.
Sporting goods.
Military equipment: Tents, uniforms, accouterments, etc.
Fly screens.
Lumber.
Sugar.
Cement and cement-making machinery.
Plows.
Cheap jewelry.

ASIATIC TURKEY.

THE DANGER OF AMERICAN EXPORTERS ATTEMPTING TOO MUCH.

Consul-General G. Bie Ravndal, of Beirut, reports as follows concerning the particularization of foreign commerce and the unprofitableness of attempting to cover too wide a field in the export trade, not only in Asiatic Turkey, but elsewhere:

While there are American exporters who can scientifically control markets in all parts of the world, the average exporter is not able to deal to the best advantage in perhaps several lines of goods with widely separated markets, requiring each a totally different treatment. Specialization seems necessary to the attainment of the best results in export trade as well as the professions and other pursuits.

There is in the United States an abundance of trade journals publishing "specialized news for specialized readers," and, perhaps, adequately supplying domestic needs on this score. In the matter of publications devoted to foreign commerce, an imposing array of trade journals can also be pointed to, ably edited and beautifully printed, and yet, in no small measure, failing in their mission, by attempting to cover the entire globe, as far as it is inhabited.

In Germany, for the Levant alone, there are published several trade journals which confine their operations to the Near East and ignore the rest of the globe. By more or less exclusively fixing their attention, year after year, upon this special region, they become authorities in their chosen field and competent to render their patrons efficient, practical service. In harmony with this spirit of particularization, German merchants apply themselves to correspondingly circumscribed markets with a thoroughness, perseverance, and detailed knowledge which can not fail. And having once gained a foothold and established relations, their principal concern is to render these relations continuous and enduring.

AMERICAN EXPORTERS AT FAULT.

It may be doubted if any ordinary manufacturer or exporter can successfully conform to the requirements of various markets in different sections of the world. He should limit his activities (at least to begin with) to a certain well-defined territory. Having chosen his ground—and in doing this, the American export merchant has unrivalled means at his command in the facilities now offered by the Department of Commerce and Labor—he will find it to his advantage to exploit his field thoroughly. His efforts should be intelligent, persistent, and pursued with the idea of forming permanent connections. He should apply himself to his task, determined to win the abiding good will and esteem of his foreign connections.

Agents in foreign lands characteristically take pride in the houses they represent, and in time considerable sentiment becomes interwoven with their business. Great pains should be taken by the American exporter to foster and preserve such amenities. Too often, however, the interests of foreign trade are made subservient to the exigencies of the home market. If, during a period of depression or overproduction at home, connections are established abroad only to be broken and cast off as soon as things brighten up in the United States, it is highly improbable that these connections can be resumed later. In their place is left resentment against such methods, if not against everything American, and the American consul finds it no easy task to patch things up. The foreign importer or commission agent, in concluding his alliance with the American manufacurer or exporter, probably cut off associations of long standing with some European concern which he had dealt with or represented for years, and by the unsatisfactory termination of his American agency finds himself out of business.

TRADE CONCENTRATION.

By nearly every mail inquiries are received from American manufacturers who have decided to enter the foreign field. Their communications are evidently copies of letters addressed probably to every officer in the American consular service. It is to such enquirers especially that the policy of specialization and concentration herein imperfectly described, a policy of limitation, of thoroughness, of continuity, is respectfully recommended. Nothing is more fallacious or more fatal to lasting success than the theory that American goods will sell anywhere and anyhow.

With the organization of an American Levant Association, for instance, covering the markets of the Mediterranean, the Levant, the Near East, and perhaps India, we might hope to experience the appearance in these parts of American commercial travelers and cargo vessels flying the national colors, of American resident representatives of commercial and banking houses in the United States, in short, tangible evidences of genuine and lasting American trade expansion.

In the whole Ottoman Empire there is hardly more than half a dozen Americans in mercantile business. A large American concern exporting licorice from Asia Minor, Syria, and Mesopotamia to the United States has on its pay rolls out here more than 50 permanent employees (managers, clerks, etc.), among them about 30 British subjects, but, as far as can be ascertained, only one American.

CHINA.

MANUFACTURERS SHOULD HEED COMPLAINTS AND RECTIFY MISTAKES.

Of a Shanghai manufacturer finding fault with hydraulic cotton oil pressing machines purchased in the United States, and failing to receive any reply to his complaints from the manufacturers, Deputy Consul-General W. Roderick Dorsey, of that city, writes as follows:

The matter was brought to the attention of the manufacturers but, up to June 12, without satisfaction to the purchasers. For this reason, and this alone, American machines were superseded by those of British make. The company who shipped the machines doubtless did so in good faith, but it behooves the manufacturer who is sending his products to remote countries to subject them to the most thorough test and inspection before shipment.

The incident referred to is in itself small, but such occurrences harm American interests generally. When complaints are brought to the attention of manufacturers they should not be treated lightly, but should be investigated and satisfaction accorded to the buyer whenever the circumstances demand it. Competition in China is keen, and anything that tends to discredit American wares is a gain to competitors. If we are to strengthen our position in China commercially, or even maintain our present position, the producers at home must disabuse their minds of the idea that anything is good enough for China, and put goods in this market of such quality and under such representations that will render practically impossible an occurrence such as this under consideration.

[In transmitting the foregoing report Consul-General Charles Denby confirms Mr. Dorsey's statement as to the importance to American trade development in China of scrupulous care in maintaining the quality of American goods.—B. of M.]

BRITISH INDIA.

PERSISTENT AMERICANS GETTING BUSINESS IN VARIOUS LINES.

Consul-General William H. Michael, of Calcutta, cites the following example of how one American manufacturing concern is securing an excellent trade in British India:

The town of Berhampur in Madras Province has taken the preliminary steps toward introducing waterworks for the supply of pure water. The Madras government has sanctioned an estimate of $103,660 toward the enterprise. A filter company of the United States will put in the filtration plant. This same enterprising company, which has constantly on the lookout for business in India a thoroughly trained mechanic, with fine business capacity, and a corps of assistants, and an abundance of stock available on the ground, is gradually taking possession of the filtration business of the country. Dacca, the old capital of Bengal, and Bangalore, the capital of Mysore State, have decided to install the American system. The truth is that all American concerns offering goods needed in India in the right way are laying the foundation for long continued and profitable business. They are doing it by personal solicitation through American agents, who are capable, deeply interested, and in the field all the time.

SOUTH AMERICAN CANVASSING.

VARIED EXPERIENCES OF COMMERCIAL TRAVELERS TO BE AVOIDED.

Consul George A. Chamberlain writes that though the United States sold to the Brazilian port of Pernambuco during 1907 over $1,250,000 worth of goods, only about a dozen American commercial travelers visited the port during the year, eight of them calling at the consulate. The consul thus reviews trade-getting methods:

It seems as impossible to convince American firms who are trying to enter the export market of the importance of good travelers as it is to persuade them to pack merchandise with due reference to the distance it has to travel and to the mode of transportation.

Travelers can not be had for nothing. The cheap ones invariably turn out to be very expensive and often permanently ruin a market for the careless firm that employs them. Three glaring examples have come directly under my notice during the last eighteen months. Two of the three representatives in question had evidently been employed on the sole consideration of a speaking knowledge of Spanish. Their ideas of business methods in general were hazy and they were absolutely ignorant of the simplest formulas of foreign trade. To my surprise they all represented firms well known throughout the United States.

A DISASTROUS TRIP.

The first of the three came out on an arrangement by which he was to receive $4,000, the first $1,000 in New York, the next at Buenos Aires, the next at Valparaiso, etc. He spent $700 on his outfit and passage from New York to Pernambuco, and never having heard of a letter of credit, express checks, draft payable to self, or even a money belt, bought three $100 notes and put them away in a cardboard box in his steamer trunk, which was frequently left open during the voyage.

After landing at Pernambuco he discovered that he was penniless, and then began a comedy of errors which lasted for months. He cabled for money; the firm sent $100 to the telegraph office to be wired. It took the firm three months to find out that the money had never been sent and three more to learn that it is impossible to wire money to Brazil through any cable company.

In the meantime the traveler was in absolute distress. Not having received the $100, he continued to cable on borrowed money. The tangle took eight months to straighten out. The firm lost their original $1,000 and the $100 which they tried to wire to Pernambuco and finally sent there by draft. The traveler lost his credit and reputation and has been practically destitute in Rio and Buenos Aires for a year and a half, unable to get home and sure of trouble if he does. All this through sending one wholly ignorant of specialized work.

A BORROWING TOUR.

The second case was that of an American who arrived at Pernambuco in financial difficulties. He was sent with a fine lot of samples and $1,000 to Rio de Janeiro. To his great surprise he had to pay $600 duties on the samples. He soon exhausted what money he had left and started cabling for funds. His firm wired orders on Bra-

zilian banks, always sending about half what their representative required to meet past obligations. He could not remain idle for two months waiting for proper funds and went ahead, covering all southern Brazil by borrowing from each customer enough to see him to the next town. His firm was well known and he managed to get the money, but with what damage to the credit of his employers can easily be imagined. He was still borrowing when he arrived at Pernambuco and told the writer that he owed sums of $50 and $100 as far back as Rio Grande do Sul, which he had left two months before.

ANOTHER DISASTER—LESSONS LEARNED.

The third case was that of an American who came to grief through being allowed to stay six months in one place and run up $1,000 debt for board and cablegrams before his employers found out that there was something wrong.

These three cases contain several lessons to firms and travelers alike. Inexperienced houses who wish to establish or increase their trade in Brazil should give the following considerations their careful attention:

There is an abundance of trade here always, and that it is worth going after can easily be seen by studying the statistics showing the purchasing power of the country. To secure a share in this trade it is absolutely necessary to send representatives. A deaf and dumb person, however, who knows how to do business and keep cheerful is a far better representative than a linguist who never saw a letter of credit or an order blank.

EXPENSES ARE HIGH.

American firms in arranging to send a man to do $50,000 worth of business who they can not trust with a letter of credit for $3,000 should not send him. Remember that a man who travels through South America and keeps his expenses down to $10 a day is doing it cheaply. A bookkeeper on the Amazon gets $500 gold a month and finds it difficult to live within that income.

If the representative of a firm is to be away more than a year, he should give bond. It will steady him and his principals will not be so reluctant to back him up when he needs help in an emergency.

People, customs, banking systems, and business ways are different in South America from those that obtain in the United States. A traveler in his first trip encounters new and peculiar circumstances, and if he is harassed by improper and insufficient connections with his base of supplies he will fail, and South America will be regarded as being too "pioneering" and too expensive, when the truth is that a cheerful word from home and prompt backing would have saved the situation even after a bad start. It must be remembered that the traveler is on the spot and dealing with a network of trade regulations that are not experienced in the United States. When he lands, the custom-house holds his samples until the duties are paid, and they have to be paid in a certain way; sometimes it takes three days, and it always requires a professional despatcher. When he gets on shore, a revenue officer calls for the local tax on commercial travelers. This tax varies in different cities from $30 to $300. Besides these details, he will find railways with triple baggage rates. One man paid $50 gold on his baggage from Sao Paulo to Rio de Janeiro, a

distance of about 300 miles, only to find later that there is a special scale for sample trunks that would have cut the bill two-thirds.

If one has a good representative who does not talk Portuguese, a line of samples may be given him that will do the "talking."

ADVICE TO INEXPERIENCED TRAVELERS.

For the guidance of the commercial traveler about to visit South America the following schedule of suggestions is offered:

Do not start out before you are an experienced salesman. To be able to take an order automatically, and take it right, is an essential—just as necessary as to be able to get the order. A slip of the pencil or a little misunderstanding as to terms has often permanently lost a good customer.

Your salary and an average of $10 gold a day for expenses is the least you can work on comfortably.

Map out your trip before starting, remembering always that your time is not money to the people you are going to deal with, and that if you are going to try to hurry them you might as well stay at home.

If you have five days in a town spend three getting acquainted. You will find that many a merchant who is altogether overstocked when you first see him, if he takes a liking to you, after a few days will find several empty shelves.

If it is your first trip call at the consulate at once. You can save time by learning there how to clear your baggage, where to put up, by getting a list of firms buying your line and by learning on what days you can get boats or trains to the next port, etc.

If you are empowered to give credits, arrange introductions from the New York branches of the South American banking systems to their different managers. Three concerns would cover the whole coast, east and west. On the east either the London and Brazilian Bank, London and River Plata Bank, or British Bank of South America. On the west coast the Grace system. Consuls are not allowed to give any opinion on the financial standing of firms or individuals, and for such information you will be more or less dependent upon the banks. A letter of credit is the best kind of introduction to a banker.

Do not start out with the idea that you can wire for money at any time. Counting in the charges for cabling and bank discount it costs between $20 and $25 to send $100 to any town in this district, and even then there are few firms at home that know how to go about it.

Keep up your spirits. A quiet, cheerful salesman can place an order in an overstocked house when a gloomy man finds it hard work to draw an order from a merchant who needs the goods. Business is not always exclusively business here—sympathy is apt to be mixed with it.

SECURING MEXICAN TRADE.

ORDERS AWAIT AMERICAN HOUSES CONFORMING TO CUSTOMS.

Consul Thomas W. Voetter, writing from Saltillo, gives the following practical trade suggestions for exporters to Mexico:

In shipping clothing and textiles to Mexico, American manufacturers should give special attention to those articles which are to sell at a low price in competition with European or Mexican made goods, this attention to be directed to the matter of so finishing the goods that they can enter Mexico under the lowest proper customs tariffs. The addition of an apparently insignificant trimming of cheap silk may make a great difference to the person who is to pay the duties.

A case which happened recently will illustrate. A merchant here ordered some shirts from a maker in the United States and specified that they should be all cotton. When they reached the custom-house at the border, the Mexican customs authorities decided that silk was used in the manufacture of the shirts, and not only placed the heavy duty for silk-mixed goods on the consignment, but assessed a heavy

fine in addition for false declaration in the invoice, which had stated the goods to be only of cotton. The result of the difference of statements was that the goods remained in the custom-house for four months pending the settlement of the case. The final outcome was not told me, but the merchant stated that the shirts, which he had ordered for the purpose of selling at $2 each, would have to be marked up to $5 each if the higher duty and fine were to be paid. The use of silk thread in sewing the shirts, or a little fancy silk stitching, or even a label with the brand name in silk woven into it, might be enough to cause a heavy duty instead of a light one being imposed.

DELIVERY PRICES WANTED.

A merchant of Saltillo has made a suggestion which he thinks would aid American salesmen in obtaining business. When the traveler is asked what the goods will cost laid down at destination, he should be able to give the prospective customer a prompt answer without having to go through a series of calculations. He suggests that on the tickets attached to each sample the rate of duty and a price sufficient to cover freight and incidental expenses should be written, in addition to the price at point of shipment. This extra information should be placed on the ticket before the salesman starts on his trip. Such information is given by German salesmen and is of great influence in getting sales.

My informant gave it as his opinion that the large American houses in the dry-goods business could get hundreds of thousands of dollars' worth of increased business in Mexico each year if they would come after it in a practical way, by placing a capable agent in Mexico City to do business in the way the merchants of this country want to trade, with power to make such terms as his competitors do in the way of credits and payments. My informant states that American goods and prices would be satisfactory to the trade in this country, and that a little consideration for the business customs of the purchasers would insure the obtaining of a good and profitable volume of trade.

LOCAL AGENCIES AND SALESMEN.

THE BEST MEANS FOR THE ENLARGEMENT OF AMERICAN TRADE.

In reply to many correspondents as to the best means by which American trade in Mexico can be extended, Consul Clarence A. Miller, of Matamoros, furnishes the following information:

According to a recent issue of a Mexican newspaper, suggestions worthy of consideration on the part of American exporters seeking enlarged or new trade in Mexico were given by one of the consuls of this Republic in the United States in an address to a commercial club in a western city. In this connection manufacturers and exporters must bear in mind when reading these suggestions that the Mexican consul addressed a commercial club interested solely in its local manufactures and products and that the suggestions might need some modifications when applied to the general manufacturing and productive interests of the United States.

The suggestions of the consul, which contain much that is worthy of the consideration of manufacturers and exporters of the United States in general, are as follows:

The establishment of a commercial agency in Mexico City, with clerks thoroughly conversant in the Spanish language to conduct the business correspondence. The club should have traveling salesmen who speak the Spanish language and who are familiar with the trade conditions and the wants of Mexican merchants.

The traveling salesmen could carry samples of the lighter classes of goods, but machinery, farming implements, and other heavy classes of manufactures should be on display in two or more of the principal cities, where men should be kept to demonstrate the use of machinery. Agriculture is rapidly developing in Mexico, and there is a strong demand for improved farming machinery.

The consul believes that it would be a great advantage for manufacturers to maintain agencies and distributing centers in the City of Mexico and in Monterey, both being important railway centers. Monterey could be a distributing point for northern and western Mexico and the City of Mexico for central and southern Mexico.

BELGIUM IN THE FAR EAST.

LAYING A SURE FOUNDATION FOR FUTURE INCREASE OF TRADE.

Consul H. Abert Johnson, of Liege, gives an account of the special effort that Belgium is making to advance its commercial interests in the Orient:

In recent years Belgium has displayed decided energy for the expansion of her already important trade with the Far East, and the relatively conspicuous position she now holds among the European nations whose rivalry for commercial supremacy in that quarter of the globe is of the keenest shows that her efforts have not been exerted in vain. The Belgian Government intends to participate in the International Exposition at Tokyo in 1912, and will, it is asserted, use every endeavor to make Belgium's exhibit one of special prominence.

The Government has also decided to install its diplomatic and consular representatives in the Orient in more imposing quarters. A splendid new building for the Belgian legation at Peking is now nearing completion, ground has been broken at Shanghai for an imposing consulate-general, while at Tokyo a similar building is to be erected. At Seoul, the Korean capital, a new residence has lately been built for Belgium's diplomatic representative. These undertakings on the part of the Belgium Government necessitate considerable increase in the annual budget, but such expenditures are looked upon by the business element of the Kingdom as an excellent investment for the nation.

BELGIUM BECOMES ACTIVE IN CHINA.

It is only since 1896 that Belgium has made serious efforts to enter the field of commercial activity in China. During that year the Belgian minister at Peking notified his Government of the possibility of a Belgian firm being awarded the contract for building the Peking-Hankow Railway line. The Belgian minister of foreign affairs immediately called together a group of financiers and manufacturers of railway material to look into the question. This meeting resulted in the organization of the Société d'Etudes de Chemin de Fer en Chine, that at once took the matter in hand. Important orders were given to Belgian firms for railway rolling stock and other material,

and this proved to be Belgium's initial move in the expansion of her trade with the Far East. Prior to 1905 the efforts made by Belgians to foster closer commercial relations with China, being largely confined to the action of single individuals or firms acting independently, were not productive of results in keeping with the immense possibilities offered by the Chinese market, and at the same time were far from doing justice to Belgian commercial and industrial activity.

The subsequent agitation in the commercial world, brought about by a full realization of these conditions, led eventually to the organization in Brussels of the Chino-Belge Chamber of Commerce, an institution having for its object, primarily, the grouping together of all interested industries and assisting in every possible manner in developing and fostering their relations with the Orient. Supplying manufacturers and commercial bodies with information relative to the important markets of the Celestial Empire, pointing out the kind of goods likely to meet with favor and the prices for which such goods could be readily sold, emphasizing the numerous opportunities for developing oriental trade, encouraging a spirit of initiative on the part of Belgian industrial interests in taking advantage of these opportunities, supplying the Chinese merchants with information that would facilitate the exportation of their products into Belgium, and the purchasing in that country of goods that could find a ready sale in China, are among the leading aims of this Chinese-Belgian Chamber of Commerce, fostered through the intermediary of its official organ, entitled "Chine et Belge." This review, published monthly, contains much useful information, and is expected to prepare the way for a vast army of Belgian manufacturers and merchants to form new trade relations. Its policy will be to strive unceasingly for the rapid development of closer commercial relations with China, and to this end it will energetically advocate the creation of an effective merchant marine, without which it is claimed all profitable expansion of trade beyond the seas is but a visionary dream, not in harmony with the views of any of the serious and intelligent business men of the country.

ALSO AFTER JAPANESE TRADE.

Another association, founded on similar lines, for fostering trade relations with Japan is the Société d'Etudes Belgo-Japonaise. The special pains taken by Japan at the Liege Exposition in 1905 to make her section prominent is considered as indicating a strong desire to enter into more intimate commercial relations with Belgium.

The society has sent a representative to Japan. As a basis for his investigations the society asks its members to indicate the special subjects in which they may be individually interested, so that a complete set of interrogatories may be submitted such as will be of value in furthering the interests of increased trade with Japan. It is said that the information embodied in the replies to these inquiries will, doubtless, clearly illustrate a fact perhaps already too well known in some quarters, that Belgian products are now extensively sold in Japan, but that in most cases such sales are made by other than Belgian houses, and that an extremely small percentage of such products find their way into Japan by means of direct importation from Belgium. That the Japanese are favorably disposed toward

the products of this country can hardly be doubted, in view of the increasing number of orders for such products by Japanese merchants.

SCIENTIFIC-ECONOMIC ACTIVITIES.

During the preliminary period of research and study the office of the secretary-general of the association proposes issuing a monthly bulletin, published in the interests of Belgian exporters, entitled "Japan et Belgique." This publication will be directed on similar lines to "Chine et Belgique," the official organ of the Chinese-Belgian chamber of commerce. It may be added that the advertising department of this publication is to receive special attention. The advertisements alone, translated into English and Japanese, make up an attractive volume, and a large number of copies have been sent to the society's representative at Yokohama, through whom they have been distributed to the leading Japanese firms who are in position to make business connections with Belgian firms.

This method of advertising has, it appears, proved highly satisfactory, and the agent of the society writes that he has already been approached by numerous visitors plying him with the most diversified kinds of questions in regard to the industries of Belgium.

The work of the Société d'Etudes Belgo-Japonaise will include Formosa, Korea, and Manchuria. Owing to the success of the two organizations mentioned, others of similar scope have been recently formed, such as the Société Belgo-Russe and the Société Belgo-Persane.

AUSTRIAN EXPORT ASSOCIATION.

ACTIVE EFFORTS OF SEVERAL PROVINCES TO EXTEND FOREIGN TRADE.

Consul Joseph I. Brittain, writing from Prague, states that the Export Association of Bohemia, Moravia, and Silesia has been formed for extending their manufactured products into foreign countries, their activity being thus described:

The society has permanent offices at Prague, where there is constantly on duty a staff of paid officials. One department attends to the department of commerce, another to the collection of debts, another has charge of the tariff, and customs-house affairs, another the matter of transportation and brokerage.

The association consists of upward of 1,200 members from the various industries in Bohemia, Moravia, and Silesia. These members are assessed annually according to the volume of business transacted, the minimum assessment being 20 crowns ($4.06) and the maximum 50 crowns ($10.15). Aside from these assessments the society is subsidized by the Government, else it could not meet its expenses. Special representatives from the association are sent to various parts of the world when there appears to be an opportunity for extending the trade of any one of the three interested countries. During the month of August this year the president of the association will make a tour of the leading commercial centers of the United States, with the hope of materially increasing the exports to America.

Aside from tours made by special representatives of the association, there were received last year 52,671 and forwarded 83,522 com-

mercial communications. When an inexperienced merchant or manufacturer receives an order for merchandise from a foreign country, he may, upon the payment of a small fee, receive from the association full instructions as to tariff, packing, brokerage, freight, time in transit, and terms of sale in the country where his merchandise has been sold.

GOVERNMENT SHOWS INTEREST.

The association in June held a congress on the Prague exposition grounds, which was attended by exporters and manufacturers, and also by the various consuls in Prague. The leading address was delivered by Karl Duschnitz, imperial councilor. The speaker took the position that only nations with highly developed industries can hope to compete for a share of the world's commerce. He said that countries where agriculture predominated could not attain much commercial prominence.

Especial attention was called to the increased exports from Germany and the decrease in emigration from that country within the past twenty-five years. Its exports have increased 220 per cent while those of Austria-Hungary have increased but 70 per cent. Germany's annual emigration during the same period has decreased from 210,547 to 31,000, while the emigration from Austria-Hungary has increased from 74,000 in 1890 to 262,833 in 1906. By extending the commerce of Austria-Hungary, the speaker claimed that the Austrian laborer would receive higher wages, and therefore be better contented to remain at home.

The Prague Chamber of Commerce has also an export department, which assists the exporter in every possible way. Through subsidizing these commercial organizations, the Government aids foreign commerce. The large foreign population in the United States acts as a great advance army for the purchase of merchandise from the mother country. There are comparatively few Americans in foreign countries, hence our wares must sell on their merits, if at all.

BAD BUSINESS METHODS.

INDIFFERENCE OF AMERICAN SHIPPERS IN FILLING ORDERS.

Consul-General George Horton, of Athens, in his annual report on the trade and commerce of Greece during the calendar year 1907, furnishes examples of carelessness and indifference on part of American business men which unfortunately are not infrequent. The consul-general writes:

Several instances of carelessness on the part of American shippers, after receiving orders, have produced a bad impression here. One or two will suffice by way of illustration. A merchant of Piraeus ordered from the United States a motor and dynamo, guaranteed to work with denatured alcohol, for electric lighting and agricultural purposes. He had already arranged to sell it, and a successful installation would probably have resulted in further business. When his dynamo arrived it would not work with alcohol. He wrote to the manufacturers, and received a reply that something was missing, which would be sent. Over a year passed and the missing part was

not furnished. The machine, which he had prepaid, stood useless in his warehouse, and he resorted to an English manufacturer.

INSTRUCTIONS DISREGARDED.

A firm in Athens ordered quite a large quantity of fancy soaps of a Chicago manufacturer, hoping, and with good reason, to do a large business in these commodities. The first shipment arrived in due time but without the necessary bill of lading. This oversight caused long delay, but the importers here were at last able to persuade the steamship company to give them the soap against the guaranty of a local bank. They wrote immediately to the shippers, to head off a recurrence of the trouble, but a second consignment was sent without a bill of lading, and the goods are now lying in the custom-house, as it is impossible to repeat the former expedient. Even the first shipment was liberated too late for the Christmas trade, and the firm will have the goods on their hands for a year at least, with about $2,000 tied up in them.

In the same category I may mention a considerable order of steel that was placed here by a Pittsburg firm, but it was nine months in arriving, and in the meantime the Athens people had taken on an English steel agency. With the present facilities such an order should be filled and delivered a month after its receipt. There is a good opening in this market for iron tubing of various kinds, including water and gas pipes, as well as for soft steel plates and iron girders, which, on account of the better freight facilities, can now compete with shipments from Belgium.

ADVERTISING IN MEXICO.

CATALOGUES AND TRADE JOURNALS SHOULD BE PRINTED IN SPANISH.

Consul William W. Canada, writing from Veracruz, tells why advertising and all other attempts to enter into business relations with Mexicans should be in the Spanish language. He says:

In view of the fact that the publication of trade journals, catalogues, circulars, business registers of manufacturers, and so much other advertising matter is virtually flooding this country, attention should again be called to the necessity of printing such literature in the Spanish language. It may be mentioned that no matter how well a Mexican business man may understand English, he rarely enters into a transaction that may involve him in loss unless the proposition is made in his own tongue. The law obliges him to keep his books in Spanish; no document written in a foreign language is admitted in court unless accompanied by a translation which has been certified to as correct; and no matter how well a public official may understand English he will transact business only in Spanish.

It having been suggested that casinos, clubs, chambers of commerce, boards of trade and societies, places where business men congregate, would be the proper places for the display of advertising matter, a careful canvass of this consular jurisdiction has been made with the object of furnishing the names of all such organizations, so that merchants, manufacturers, editors, and commission merchants may address their publications direct to these societies.

[The list of addresses may be had by applying to the Bureau of Manufactures.]

PACKING REQUIREMENTS.

COLOMBIA.

GOODS FOR THE INTERIOR SUBJECTED TO HEAT AND MOISTURE.

Consul-General Jay White, of Bogota, furnishes the following information concerning the proper packing of goods destined for interior Colombia:

Until transportation facilities are much changed and improved, all perishable goods destined for the interior of this country should be so packed as to exclude moisture and in bundles not exceeding 125 pounds in weight, for convenient transportation on mule back, by peon, or in canoes.

Merchandise that is transported via the Magdalena River is subject to at least 100° F. for a period of about ten days, and articles such as photographic films, pharmaceutical preparations, etc., are often ruined through insufficient or negligent packing. Goods destined for the interior are exposed to the downpour of tropical rains, and may, accidentally, be submerged in crossing a stream, or in careless handling in canoes. Merchandise may now be forwarded from the Magdalena River to Bogota via the Cambao cart road, but even by this route there is no assurance that it will not be damaged by water.

PHILIPPINE ISLANDS.

MARKED IMPROVEMENT NOTED IN SHIPMENT OF AMERICAN GOODS.

Consul Jacob E. Conner, of Saigon, Cochin-China, makes the following report on the gratifying improvement in packing, as observed at Manila, concerning American goods:

It has been noticed in Manila that there has been a very gratifying improvement during the last twelve months in the packing of goods imported by the Philippines from the United States. While it is not yet all that it may be, it is observed that more care is shown in the selection of stock for the casings. This is sometimes reenforced, as it always should be, with strap-iron bands. The necessity for this is apparent to all who have watched the methods of handling, and especially transshipping freight by means of coolies. These, with a bamboo pole and a piece of rope, carry in a most precarious fashion practically all sorts of merchandise brought to this region, and the package is liable to drop and burst at any moment.

Another improvement noted is in the making of uniform packages instead of placing a number of miscellaneous articles in the same case.

FREE LIGHTERAGE AT NEW YORK.

IMPORTANT PRIVILEGE APPLICABLE TO EXPORT SHIPMENTS.

Many manufacturers who ship to foreign countries through New York forwarding concerns seem to be unaware of the "free-lighterage" privilege which export freight shipped in carload lots enjoys. As a consequence of not seeing that their railroad billing to New York reads "lighterage free," the Exporters' Review states that many shippers have had to pay extra charges for cartage from the railroad to the steamship pier, which latter may be in Brooklyn or

Hoboken, thus entailing extra ferriages also. The "lighterage-free" clause entitles the shipper to free delivery of carload lots alongside steamer or on steamer's dock at such piers as are usually employed by any of the ocean lines. On full carloads, made up of export shipments to go by different lines, one free delivery is allowed, extra deliveries being at the rates which became effective on March 15, 1908.

BUSINESS MEN'S EXCURSIONS.

SUGGESTED TOURS FOR EXTENDING TRADE IN FOREIGN COUNTRIES.

In reporting that there have been two large excursions of business men to Constantinople within a couple of recent months, Consul-General Edward H. Ozmun describes their entourage and gives suggestions to Americans. He says:

The first excursion was organized by the Germans, and consisted of about 100 business men from various parts of Germany. On arriving in Constantinople they were received by their ambassador at the German embassy and conducted about the city by the German officials. They remained three days and interviewed many business houses here with a view to extending their trade.

The second one was an excursion of 150 Roumanian business men. They came here on a steamer of the good service established by the Roumanian Government between Constanza, Roumania, Constantinople, and Alexandria, which has done so much to extend Roumanian trade. They were received by their minister and consul-general and conducted about the city, remaining here three days and interviewing merchants for the purpose of selling their goods.

It seems to me that this is a very practical way of making a beginning in getting foreign trade, and with certain modifications Americans might advantageously undertake the same methods. It is true the United States lies considerably farther away from Turkey than Germany or Roumania, but our people are accustomed to travel, and these excursions could be undertaken in periods of commercial dullness at home and could be made to embrace many countries in one trip. A good way would be to have a number of excursions organized at the same time, with competitive lines avoided. It would be best to limit the number in each excursion to 50, arranging a systematic tour to reach special markets for special goods.

TRANSPORTATION.

FOREIGN RAILWAY PROGRESS.

CHINA.

CONSIDERABLE AMERICAN MATERIAL ORDERED FOR THE FUHKIEN LINE.

The following information concerning the building of the Fuhkien Railway, and the American supplies therefor, is furnished by Vice-Consul E. Carleton Baker, of Amoy:

The Fuhkien Railway, which is ultimately to connect this province (Fuhkien) with the Province of Kwang Tung, on the south, and Kiang Si, on the west, is now well under way. The route from Amoy to Chang Chew, a distance of 33 miles, has been surveyed and the right of way secured, and the tracks have already been laid for a distance of 3 or 4 miles. A large construction force is now working on the road and the work is steadily progressing. The terminus near Amoy is situated on the mainland at Sung Su, 2 or 3 miles distant from Amoy city proper. It adjoins the water front, and large ships may come alongside as soon the the piers are built. A railway depot and car shops have already been completed, are very substantially built of brick, and present quite an imposing appearance.

The rails for the road were all ordered from the Hanyang Iron Works in the Province of Hu-Peh, $45,000 worth having been delivered, while $75,000 worth are on the way. The contract price was about $35 per ton. The ties, or sleepers, are all of Japanese manufacture, some 50,000 of them having been delivered and paid for at the rate of about 53 cents apiece.

SUPPLIES FROM THE UNITED STATES.

The bridges for this road have all been ordered from the United States through a firm in Shanghai, which works conjointly with an American firm with headquarters in New York. Considerable American rolling stock has also been ordered through this firm, also American couplers, turntables, and other general supplies.

Only two locomotives so far have been ordered. One is of American and the other of German manufacture. Both are now here on the field. The German locomotive has just been set up by a local engineer, and the American engine is being put together by a personal representative of the American locomotive company which manufactured it. The two locomotives are of similar type and each cost about $9,000. Additional locomotives will doubtless be ordered according to whichever of the two locomotives proves the more satisfactory. It may be said that the necessity of having a personal representative of technical training on the field can be seen nowhere more clearly than here. The American locomotive will be shown and handled to far better advantage by the American in charge

than the German product can be by some person who is not actually connected with the locomotive business.

Some of the leading officials of the road seem to be favorably disposed toward American rolling stock and railway supplies of all kinds, at least to the extent of giving American manufacturers a fair chance to prove the efficiency of their products, and thus enable the road to purchase them with profit, which is all that can be expected.

There is, therefore, every opportunity for the sale of American railway supplies to the Fuhkien Railway, and a proper representation should accomplish profitable and far-reaching results, for more and more material will be required as the railway extends its field of operations, which will eventually cover the greater part of this Province.

LOCAL REPRESENTATION.

Little can be accomplished, for various inexplicable reasons, without personal representation. Therefore the man who is on the ground has by far the greater advantage. Where American firms can not have American agents to represent them directly, it is better to be represented upon the ground by some foreign firm handling American goods than to merely send out catalogues and letters, which seldom accomplish the desired results. The American locomotive now here was sold through a Japanese concern, while the other American goods, as stated, were sold by a firm in Shanghai. As there is no American firm handling railway supplies in this Province, it might be well for American houses to correspond with this firm at Shanghai if they desire to sell supplies for the Fuhkien Railway and can not be represented directly by an American agent, for this firm is in close touch with the railway officials and has furnished the greater part of the supplies thus far ordered. [Address of the Shanghai firm is on file in the Bureau of Manufactures.]

SOUTH MANCHURIA RAILWAY.

NEW AMERICAN ROLLING STOCK IN USE THROUGHOUT THE LINE.

The following information concerning the standardizing of the South Manchuria Railway, the introduction of American rolling stock thereon, with the benefits which are expected to result, is furnished by Consul Roger S. Greene, of Dalny:

As previously reported, it was decided to defer using the standard gage material on the South Manchuria Railway until the whole line was standardized. This work was finished in May, and during the five days from the 22d to the 26th the new American rolling stock was substituted for the old along the whole line, beginning from the north. The service is now being regularly maintained, on a slightly altered schedule, with the new material. The change was effected without interrupting the passenger service, and it was only necessary to suspend through freight shipments for about a fortnight, which was done without great inconvenience, as the busy freight season is now practically over. The old rolling stock will gradually be returned to the Japanese railways from which it was taken during the war.

The new equipment set up, tested, and ready for service at the time the change was effected was as follows: Locomotives, 121; combina-

tion first and second class passenger cars, 10; second-class passenger cars, 44; third-class passenger cars (temporary), 10; mail and baggage cars, 15; box cars, 453; gondola cars, 650; flat cars, 197; cabooses, 100; water-tank cars, 3.

PROPOSED SERVICE WITH SHANGHAI.

The time remains practically unchanged, and it is not expected that any faster trains will be run before next year. Much better connections than before are now made with the steamers running between here and Japan, and the railway company is, moreover, negotiating with the Nippon Yusen Kaisha for the opening of a weekly service between this port and Shanghai with a first-class passenger steamer.

This may not only help to attract the European passenger traffic to this route, by offering a reduction in time of more than two days, compared with the Vladivostok route, but, what is far more important, it may encourage Chinese and foreign trade by affording regular and prompt freight connections with that important depot. Hitherto steamers have come from Shanghai only very irregularly, as the volume of business has not been sufficient to make a regular service attractive to unaided private enterprise.

If Dalny is made the most convenient port of entry for Manchuria, as such connections will help to make it, a solid foundation for future growth will have been laid, and buyers and sellers will come here in greater numbers. [Copies of time-table and fare schedules of the Manchuria Southern Railway and a chart of Darien Wan, Kwangtung Peninsula are on file in the Bureau of Manufactures.]

CANTON-HANKOW RAILWAY.

PROFITABLE OPERATION AND EXTENSION OF SOUTH CHINA TRUNK LINE.

Vice-Consul-General Willard B. Hull, of Canton, makes the following report on the general meeting of the shareholders of the Canton-Hankow Railway held in that southern China metropolis on June 13:

Under the able management of the president, Sir Chentung Liang Cheng, the company offered a most satisfactory report. It shows a net profit of over $150,000 gold for the first two years of operation on the Samshui and Wongsha divisions, each about 30 miles long, and over $1,500,000 gold on hand to continue construction. When all of the second installment, which is now due, is collected there will be a working fund on hand of between $15,000,000 and $17,500,000. At the meeting the following resolutions were passed:

First, the establishment of a bank in connection with the Canton-Hankow Railway, of which branches will be opened later. The capital of this bank will be decided on after the collection of the second call on shares.

Second, the payment of interest at 6 per cent per annum to shareholders for the two years, i. e., from the date of collection of the first call; the amount of interest due to shareholders will be accepted in part payment of the second call of subscriptions, and those shareholders who refuse to pay their second call will not be allowed to receive their dividend.

Third, the construction of branch lines. As an initial step a branch line to be first built from Canton to the city of Sanui, work to be commenced on it as soon as the second call of shares is paid up and the sanction of the ministry of posts and communications is received.

The construction work on the line is going on in a most satisfactory manner. The survey has now been completed to Yintak, a distance of 93 miles from Canton, and includes no less than three tunnels, one

300 feet long at Taimu, another of similar length at the Blind Boys Pass, a few miles above the mouth of the Lienchow River, and a larger one, of over 500 feet, some 5 miles below the city of Yintak.

The track from Taimu mainly follows the course of the river, and when completed it will open the magnificent scenery of the North River, which has hitherto been practically closed to travelers owing to the unsatisfactory condition of the Yintak launch service.

They now hope to have the line in operation to Yintak by the end of 1909, but the cutting of the tunnels will probably mean another year, at least, before trains are running. The road is divided into 10-mile sections, and construction is now going on up to the seventh section. The administration now plans to have the whole of their line—that is, to the Hunan border—open for trains within three years.

BRITISH INDIA.

ANNUAL PROFITS OF AN EXTENSIVE AND GROWING SYSTEM.

According to the administration report on railways in India for the year 1907, Consul-General William H. Michael, of Calcutta, finds that there were 924 miles of new road opened to the public, making a total of 30,010 miles of road for all India at the close of the year. He supplies other details of the progress of India's railways:

By the end of March, 1908, the lines open made up a mileage of 30,206, and lines under construction and sanctioned 2,516 miles. During the year 290 miles of road were sanctioned.

The total capital outlay on all lines at the close of the year 1907 amounted to $1,328,105,000. The expenditures sanctioned for 1908–9 amount to $50,000,000. Last year the lines placed orders in England for 2,900 covered and 1,450 open freight cars. The cars as received will be distributed over the lines of companies and State where most needed.

The additions to rolling stock to all the lines during 1907 was 229 engines, 736 coaches, and 6,118 freight cars. The rolling stock ordered, but not yet delivered, on account of the 1907 sanction, consists of 514 engines, 1,879 coaches, and 6,118 freight cars. Since December last provision has been made for additional rolling stock, as follows: Eighty-nine engines, 406 coaches, and 4,821 freight cars. Much of this rolling stock will come from England in "knock-down" shape and will be put together in the shops of the different roads.

EARNINGS—PASSENGER TRAFFIC.

The gross earnings of all lines were $157,562,333, an increase of $10,504,660 over 1906. The net earnings for the year amounted to $76,609,330, an increase over 1906 of $2,909,330. The return on the capital outlay was 5.77 per cent, as compared with 5.83 per cent in 1906.

In the increase of gross earnings the following lines are represented: North Western State Railway, 29 per cent; Great Indian Peninsula Railway, 14 per cent; Bengal and North Western Railway, 7 per cent, and the remainder was contributed mostly by

the Bengal Nagpur, Eastern Bengal State, Oudh and Rohilkhand State, and Southern Mahratta railways.

The total number of passengers carried was 305,890,000, against 271,006,000 in 1906. The earnings therefrom amounted to $50,150,000, against $45,610,330 in 1906. The third-class passenger traffic alone amounted to $4,101,330. Over 31,000,000 of third-class passengers were carried during the year, most of whom were pilgrims, native marriage parties, visitors to fairs, and movement of laborers from scarcity districts in search of employment. The other classes of passengers also showed an increase. The largest per cent of passenger earnings was by the North Western State Railway, which was 21 per cent of the whole.

The average passenger rate charged per mile was a trifle over 2⅔ cents, and the average distance traveled was 39 miles.

FREIGHT TRAFFIC—FINANCIAL RESULTS.

The aggregate tons of freight handled during 1907 was 2,909,330. The returns on the capital outlay was $62,100,000, and the earnings therefrom amounted to $97,466,660, an increase of 3,230,000 tons over last year and of $5,483,360 in the freight earnings. The receipts were cut down somewhat by the strike on the East Indian Railway.

The total weight of grain and pulse, raw and manufactured cotton, coal oil, seeds, sugar, salt, and jute handled during the year amounted to 33,710,000 tons, and the earnings on this freight amounted to $63,849,330. The traffic in the commodities enumerated represents 70.73 per cent in weight and 70.06 per cent in earnings of the total freight carried for the public.

The total output from the collieries during 1907 amounted to 11,150,000 tons. The traffic in coal carried by railways increased during the year from 11,190,000 tons in 1906 to 12,190,000 tons in 1907, while the earnings from this source fell from $10,761,000 to $10,618,330. This decrease is due to the reduction in freight on coal for distances of over 200 miles.

The report states that the financial result of the State and guaranteed railways for the year was a net gain to the State of $12,759,660 after meeting, in addition to the expenses of working, all interest charges on capital outlay by the State, and on capital raised by companies, and also the annuity payments of railroads purchased by the State, including both interest and the portion that represents redemption of capital. This is the eighth year in succession that there has been a surplus.

JAPAN.

GREAT PROGRESS IN RAILWAY BUILDING.

The following report concerning the progress of railway building in Formosa under the Japanese is furnished by Consul Julian H. Arnold, of Tamsui:

When the Japanese took possession of Formosa in 1895 there were only 62 miles of railways, extending from Kelung to Shinchiku, and this road was poorly constructed. In 1896 the Formosa Railway

Company was organized with a capital of 15,000,000 yen ($7,470,000), and plans for the construction of a trunk line, extending from Kelung, in the north, to Takao, in the south, drawn. Owing to a scarcity of money in Japan the stock was not sufficiently subscribed for, and in 1887 the company was forced into liquidation.

FORMOSAN GOVERNMENT RAILWAYS.

In 1899 the Japanese Diet sanctioned the issuance of Formosan government bonds to the extent of $14,342,400 for constructing the road. The entire management, control, and operation of the railway passed into the hands of the Formosan government. Construction work was vigorously pushed, and by 1905 the line was finished from Kelung to Hakoko in the north, and from Takao to Koroton in the south. The 14½-mile section from Hakoko to Koroton, owing to difficult engineering work, required three years longer for completion. This section when completed cost $174,300 per mile. The entire road extending from Kelung, the northern port, 247 miles to Takao, the southern port, was opened to traffic on April 20, 1908.

Between Byoritsu and Taichu the road reaches its highest altitude, 1,200 feet. The building of this section necessitated the construction of 18 tunnels, of a total length of over 4 miles, and 28 steel bridges, of a total length of over 6 miles. The greater part of the bridge girders were purchased in the United States. The road is 42-inch gage with 60-pound rails. In addition to this main line there are two branch roads, one from Taipoe, the capital city, 13 miles to Tamsui, the port of China trade, and the other from Takao, the southern port, 10.6 miles, to Hozan. The total rolling stock consists of 39 locomotives, 595 freight cars, and 99 passenger coaches. The department maintains repair and construction shops in the capital city, where 190 Japanese laborers and 372 Chinese laborers are employed.

Up to March 31, 1908, $12,492,352 had been spent on construction work.

During the two years 1908 and 1909 there will be spent an additional sum of $1,245,000 on the construction of railway stations and the improvement of the lines. Thus at the end of the fiscal year 1909 there will have been spent a total sum of $13,737,352 on railways, this being $605,047 less than the estimates made at the time of the floating of the loan.

Up to the year 1906 the receipts did not cover running expenses; since then receipts have covered running expenses plus interest on bonds. It is expected that the gross receipts for the fiscal year 1908 will be more than $1,500,000, in the event of which there will be netted a good profit.

SUGAR ESTATE TRAMS AND PROPOSED NEW RAILWAYS.

During the fiscal years 1909–1916 there will be expended $2,119,986 in the construction of a railway for about 100 miles along the east coast. There are being constructed by the sugar mills in South Formosa about 350 miles of sugar-cane trams. In addition to transporting sugar cane from the plantations to the mills these trams are privileged to haul freight and passengers. The cars are all drawn by steam locomotives.

To tap the virgin forests of the Arisan district a lumber company began several years ago the construction of a narrow gauge railway from Kagi City, on the Government trunk line, to the company's headquarters on Mount Ari, 7,200 feet above sea level. The survey for this line was completed a year ago. To carry this road from Kagi at sea level 40 miles to its mountain terminus will require the construction of 90 tunnels and the expenditure of nearly $2,000,000. This company has a concession from the Formosan government to about 36,000 acres of forests, which it is said contain about 1,000,000,000 board feet each of soft and hard woods. The construction of the road is at present at a standstill, owing to the financial stringency in Japan. Efforts are being made by the Fugita Gumi to get the wealthy families in Japan interested in this mountain railroad and lumber project. [Accompanying Consul Arnold's report were the following maps and illustrations, which are filed in the Bureau of Manufactures: (1) Map of Formosan railways; (2) railway bridge over the Dakasui River; (3) railway bridge over the Naisha River; (3a) bird's-eye view of Naisha River and entrance to tunnels; (4) railway bridge over Gyotopin Valley; (5) railway bridge over Daiko River; (6, 7, and 8) views of entrances to three tunnels, and (9) spiral on the Arisan Railway.]

ITALY.

EXPENDITURES AND SCOPE OF WORK PLANNED FOR SEVERAL YEARS.

Vice-Consul W. Bayard Cutting, jr., of Milan, submits the following report on Italian railway appropriations:

The law for the construction of new railways in Italy, which has been under discussion for some months, has finally been promulgated. It provides for the expenditure of $107,000,000 during the next sixteen years and the construction of 992 miles of new roads, as well as the improvements of existing lines. Only $772,000 is appropriated (outside of the regular budget) for the year 1908–9; but in 1909–10 the amount will be $8,357,000; in 1910–11, $13,549,000; in 1911–12, $13,896,000.

The two largest appropriations (of $29,000,000 each) are for the improvement of the direct lines between Genoa and Tortona (which will shorten by 16 miles the distance from Milan to Genoa) and between Florence and Bologna. The direct line between Naples and Rome receives an appropriation of $17,000,000. The improvement of communications in the southern provinces is provided for as follows: Sicily, $5,800,000; Basilicata, $17,300,000; Calabria, $1,350,000. An amount of $5,600,000 is given to the line from Archangelo to Urbino, $1,737,000 to the Piedmontese roads, and, finally, a sum of $965,000 has been put at the disposition of the Government for the study of railroad problems and of the new lines most needed by the country as a whole.

A certain number of lines which particular sections have eagerly pressed upon the Government have been omitted from the new law. Others, while agreed upon in principle, have still to be considered in detail. The law is accepted with favor, as a remedy of the most pressing disabilities and a provision for the most urgent and immediate necessities of Italian commerce.

AUSTRIA.

DECREASED PROFITS THIS YEAR—OPERATING EXPENSES INCREASE.

Consul Joseph I. Brittain, of Prague, furnishes the following information concerning the railways centering in Bohemia:

The statistics of earnings for the first six months of 1908 shows a decided falling off in the receipts as compared with those of the previous year. It is claimed that the business during the second half of the year 1908 will largely retrieve the loss during the first six months, as during the latter part of the year the crops will be moved. It is doubtful whether the claim will be realized.

The passenger traffic of the Staatsbahn shows an increase of 261,252 passengers, while there was a falling off in freight tonnage of 263,449 tons, as compared with the period during the previous year. The tonnage by the river Elbe was also less in consequence of the low stage of water.

Within the past year there has been a decided increase in the operating expenses of the Austrian railways, owing to a general advance in wages paid for all sorts of labor connected with the service, and also in consequence of the increased prices for materials.

DETAILED RECEIPTS OF THE SEVERAL LINES.

With the exception of the first-named railway, all the roads practically center in Bohemia. The following were the receipts during the first six months of 1908:

Line.	Receipts.	Increase (+) or Decrease (−).	Line.	Receipts.	Increase (+) or decrease (−).
Sudbahn	$12,618,480	−$95,410	Buschtehrad A	$874,930	+$10,150
Staatsbahn	6,575,170	−265,930	Buschtehrad B	1,530,620	− 6,090
Nordwestbahn	2,813,580	− 91,350	Aussig-Teplitz	1,904,140	+ 89,320
Elbethalbahn	1,831,060	− 56,840	Böhmische Nordbahn	1,165,220	+ 31,510
Südnorddeutsche	954,100	− 10,150			

The first column indicates the total recipts for the respective periods, and the second indicates the decrease or increase as compared with the same period during the previous year.

BRITISH SOUTH AFRICA.

OPENING OF AN AGRICULTURAL RAILWAY IN NATAL.

Consul Edwin S. Cunningham, of Durban, furnishes the following information concerning the opening of a government railway in Natal:

It was announced that the governor would in June formally open a railway connecting Stuartstown with the coast line. The line when completed will be 97 miles in length, extending from Esperanza to Donnybrook. This line has been constructed by the government and opens up an agricultural district of the colony. The recent policy of the Natal government has been to offer the greatest possible encouragement to the development of the lands, and the construction of this line is only the carrying out of the policy of giving every facility possible for the cultivation of the lands and transportation to the best markets.

BRITISH STREET RAILWAYS.

BELFAST.

RETURNS OF THE SYSTEM NOT SUFFICIENT TO MEET EXPENSES.

The following information concerning the working of the Belfast street railway is furnished by Consul Samuel S. Knabenshue, of that Irish city:

The street-car system of Belfast is owned and operated by the municipality. The act of Parliament under which the city was empowered to purchase and operate the system requires that it shall be made self-supporting—that no money shall be taken for tramway purposes from any other fund. When electric traction was introduced on December 5, 1905, the schedule of fares established was this: A circle of 1 mile in radius was established from the junction through which all cars pass, in the center of the city, and the fare was fixed at 1d. (2 cents) within this circle, whether the passenger passed through the junction or not; to any point beyond the mile radius the fare was 2d. (4 cents). To accommodate workmen a universal penny (2 cents) fare was established up to 8 a. m.

For some months the returns have proved unsatisfactory, as they did not afford sufficient for all expenses. Hence a revised scale was put into operation on July 25, 1908. The ½d. (1 cent) fares are abandoned. Between the junction in the center of the city and the end of any line the fare is 2d. (4 cents). Between the junction and points on the different lines averaging 1¾ miles the fare is 1d. (2 cents). Cross-town penny stages are restored—that is, a passenger may ride from a stage situated about a mile from the junction, through the junction, and on to another stage about the same distance on the other side for 1d. (2 cents), but this must be a continuous journey on the same car, as no transfers are given. Children under 14 can travel any distance for ½d. (1 cent) on the same line, or on any of the cross-town penny stages for the same sum. The workmen's rate of 1d. (2 cents) for any distance before 8 a. m. is continued without change.

RECEIPTS AND EXPENSES OF THE BELFAST TRAMWAYS.

Consul Knabenshue also furnishes an additional report covering the second year of the electrification of the street car lines of Belfast under municipal ownership of that city:

The annual report of the Belfast city tramways for the fiscal year ended March 31, 1908, has just been published and, as it is for the second full year since the rebuilding and electrification of the street car lines under municipal ownership, it permits of full comparisons as to revenue and expenditure with the previous year, so that the financial workings of the street car system since its municipalization are exhibited.

The following statement shows the revenue and expenditure of the lines during the years ended March 31, 1907 and 1908:

Receipts and expenses.	1907.	1908.
Total receipts	$881,515	$943,191
Working expenses, including power	502,505	583,119
Gross trading profits	379,010	360,072
Bank interest, etc	8,368	1,070
Total gross profits	387,378	361,142
Deductions:		
Interest on loan	165,231	175,182
Debenture interest	9,709	4,037
Sinking fund	103,050	113,288
General purpose fund	43,612	43,612
Income tax	.....	4,069
Depreciation	63,264	.....
Total deductions	384,866	340,188
SUMMARY.		
Total gross profits	387,378	361,142
Total deductions	384,866	340,188
Net surplus	2,512	20,954

INCREASED EXPENDITURES DURING THE YEAR.

The important feature in the comparison is that the item of 10 per cent for depreciation ($63,265 in 1907) was not written off in 1908. Had it been included, the latter year would have shown a deficit of over $42,000.

The reduction in the net surplus for the second year was not due to a decrease in traffic receipts, which were larger than for the previous year, but to increased expenditure. One item of this was the increased cost of power, attributed to the increased cost of coal. Another item was an advance in wages to certain classes of employees. The principal item, however, was an increase in the car mileage run, thus increasing expenditure. The total mileage for the fiscal year 1907 was 5,296,895, giving receipts of 16.12 cents per car mile run. The mileage for 1908 was 5,808,901, with receipts per car mile run of 15.72 cents. The increase of 512,006 miles in car mileage was thus accompanied by a decrease of 0.88 cent in receipts per car mile run, while the cost of operating increased 0.52 cent per car mile.

Even with this increase in operating expenses the latter averaged but 9.88 cents per car mile, which is among the lowest averages shown by city tramways in the United Kingdom.

MANCHESTER.

SMALL INCREASE IN RECEIPTS AND WORKING EXPENSES.

Consul Church Howe furnishes the following statistics concerning the workings of the Manchester municipal tramways during the last two fiscal years:

The net earnings of the tramways of the English city of Manchester for 1907–8 show an increase of $20,742 over 1906–7.

The total revenue amounted to $3,511,588 in 1906–7 and $3,752,929 in 1907–8. The working expenses were $2,212,762 in 1906–7 and $2,433,361 in 1907–8, leaving available $1,298,826 in 1906–7 and $1,319,568 in 1907–8. The expenditures—interest on mortgage debt, redemption of debt, rent, etc., of tramways, income tax, etc.—

amounted to $583,261 for 1906–7 and $604,688 for 1907–8, leaving a balance of $715,565 for 1906–7 and $714,880 for 1907–8.

This balance was appropriated as follows:

Appropriated for—	1906-7.	1907-8.
Reserve renewals and depreciated account	$427,411	$427,230
Contribution to aid city rates	267,657	267,658
Street improvements, etc.	20,497	19,992
Total	715,565	714,880

The receipts per car mile have fallen from 22.04 cents to 21.52 cents. The decrease is attributed to the bad weather experienced throughout the year. The increase in the working expenses was caused mainly by the large increases in the cost of compensations to people injured on the cars, lines, etc., and an increase in the cost of the maintenance of the permanent way, which is unavoidable as the track gets older.

A new scheme of workpeople's fares, contract tickets, 1-cent stages, and school children's fares have proved a success.

The approximate population served by the Manchester tramways was: In 1906–7, 800,000; 1907–8, 850,000. The car miles run in 1906–7 were 15,523,459, and 16,974,955 in 1907–8. The total number of passengers carried was 143,264,501 in 1906–7, and 151,477,138 during 1907–8. The lines open for traffic in 1907–8 were a little over 176 miles of single track. The electrical energy used in 1907–8 was as follows: Total number of units used, 29,955,070; number of units used per car mile, 1.76. Percentage of expenses to receipts in 1907–8, 65.

The fares charged on the Manchester tramways run from 1 cent to to 11 cents. Of the total fare receipts 67.82 per cent were from 2-cent fares, 12.80 per cent from 3-cent fares, 7.24 per cent from 4-cent fares, 6.92 per cent from 1-cent fares. The remainder running from 2.10 per cent for 5-cent fares to 0.05 and 0.11 per cent for 10-cent and 11-cent fares.

HUDDERSFIELD.

THE SYSTEM YIELDS A SURPLUS FOR THE MUNICIPALITY.

The following statistics concerning the working of the Huddersfield street railways is furnished by Consul F. I. Bright:

Huddersfield, embracing an area of 11,854 acres, has a population of 100,000 and a ratable value of $2,380,448. Probably in no other town in England of the same population is municipal ownership carried on to the same extent. It was the first city in England to own and operate its tramways.

Steam was superseded by electric power in 1901. The system now has a little over 28 miles of track, over 8 miles of which are double track. Each of the 70 cars has a seating capacity for 56 passengers. The ordinary number in use is 56, each running on an average 113 miles from 5 a. m. to 12.45 a. m. The passengers carried in 1907 numbered 16,130,334, at an average fare of 2.4 cents; the total miles run was 1,960,329. The 430 regular employees receive a weekly wage of $2,239. Motormen and conductors work nine hours a day; the

shed staff, day, nine hours, and shed staff, night, seven and one-half hours.

The cost of the permanent way has been $984,167, the total outlay for permanent works, cars, 24 waiting rooms, and other property being $2,009,383. An open top car weighing 10 tons costs $2,579, a covered top car weighing 10 tons 14 hundredweight $2,823.

The total working expenses for the year were $202,943, making an average of 8.7 cents per car mile, after deducting $31,486 for power expenses. The fares charged run from 2 cents per 1.23 miles up to 8 cents per 6.85 miles.

From 5 a. m. to 8 a. m. and from 4 p. m. to 10 p. m. cars are available to workmen going to and from work at 50 per cent of the ordinary fares.

The total income for the last year was $412,212, leaving a gross surplus of $209,269, and, after paying certain amounts of interest on capital, redemption of debt, and depreciation account, a net surplus of $31,700 to be applied to the relief of the general rates.

During the year there were 262 accidents, caused principally from collisions between cars and other vehicles and by passengers alighting from and boarding cars when in motion. There were no fatal accidents, and less than 30 claims for damages were presented. Third-party risks are covered by insurance, and all such claims are adjusted direct by the insurance company, which receives an annual premium of $3,626.

There is a postal letter box attached to each car, which is cleared every hour from 8.30 a. m. to 9.30 p. m. and again at 11 p. m. The number of letters carried in 1907 was 720,512.

There is no thought here at the present time of adopting the motorbus, in use in a few large cities. The working expenses are regarded as too high.

STEAMSHIP LINES.

NORWAY.

LINE TO MEXICO TO INCLUDE ADDITIONAL PORTS IN UNITED STATES.

Consul-General Henry Bordewich, writing from Christiania, says that the Norway-Mexico Gulf Line of steamers receives from the Norwegian Government a subsidy of $26,800 per annum for three years, with the maintenance of suitable ships on a regular six-weekly communication between Norway and certain Mexican Gulf ports. Concerning its operation he continues:

The first run was made in September, 1907, and the provisions have otherwise been complied with. The undertaking appears to have been fairly profitable. Two ships of 5,200 tons d. w. each are being built for account of the company at Norwegian shipyards. The ships are to be launched this year, in October or November. With these auxiliaries the company intends to include Norfolk, Va., in the ports of call. The managers consider Norfolk, with its convenient location and railroad facilities, a proper base, and hope to be able to secure a liberal share of freights to and from other cities in Virginia, the Carolinas, Georgia, Tennessee, and other neighboring States.

The ports of call will, besides Norfolk, include as formerly the ports of Habana, Veracruz, and Galveston. In the summer season it is intended to touch also at New Orleans. The new ships will be

fitted out with equipments for carrying cabin and steerage passengers. The headquarters of the line is at Christiania; no other Norwegian ports are at present touched on the outward trip, but on the homeward trip Stavanger is entered, prior to the arrival at Christiania. The freight rates are to be fixed low enough to meet the competition of other carriers. After Norfolk is made port of call no ports in Great Britain will be touched as heretofore, and the route will then be north of Scotland.

It had been the intention to make Norfolk a port of call from the start, but obstacles presented themselves, and the idea was abandoned for the time. The Government subsidy to this steamship company was given for the reason that it was believed by the Storthing that the line would further Norwegian trade.

PROJECTED TRANSATLANTIC LINE FROM BERGEN TO NEW YORK.

Consul-General Bordewich furthermore advises that endeavors have been made for some time by a number of prominent Norwegian business men to awaken public interest in a steamship line between western Norway, with the city of Bergen as headquarters, and New York, the plans being as follows:

Their proposition is to form a stock company with a capital stock of about $2,700,000, to be raised by sale of shares at about 200 kroner ($53.60) each. The company, according to current newspaper reports, will be organized in the near future. Much attention will not be paid to the emigrant traffic, the intention being to seek the patronage of tourists and other travelers who annually visit Norway in increasing numbers. The trip between Christiania and Bergen over the new railroad can now be made in eighteen hours in the summer season, and the road is already freely used by the tourists. When the proposed steamship line shall have been established, it is expected that it will add much to the usefulness of the road. Two ships of 8,000 tons each are to be employed at first, to make the run between Bergen and New York in seven to eight days. No subvention will be asked from the Government, but it is expected that the State will to some extent employ the line as mail carriers. Attention will also be paid to the freight business.

RUSSIA.

THE VOLUNTARY FLEET GIVES UP ITS NEW YORK-LIBAU LINE.

A translation from a St. Petersburg paper by Vice-Consul William Dawson, jr., states that the North-German Telegraph and Correspondence Bureau receives the following from Libau, under date of June 20:

After lengthy deliberations and with the consent of the company's board of directors at St. Petersburg, the Voluntary Fleet last week adopted the important resolution to give up its line between New York and Libau, which has been in existence two and one-half years. Those on the inside have been aware for some time that on account of the heavy losses caused by this line the company would sooner or later be obliged to discontinue the service. As is well known, the Voluntary Fleet's trips to New York were called into existence by the avowed desire of directing the stream of Russian immigration toward Libau and at the same time away from the foreign ports, notably German, Dutch, and English, to which it was pouring over the German frontier.

The undertaking, which from the standpoint of the political economy of the Russian people was in every way to be commended, soon proved to be unprofit-

able. In spite of the fact that during 1907 the Voluntary Fleet carried about 22,000 persons to New York and had a good share of the movement in return, the lack of cabin passengers and the complete absence of freight precludes all possibility of maintaining this line at a profit. According to reliable information the company's losses in 1906 amounted to $250,000, and for the past year $300,000. For national reasons it was earnestly desired to maintain the line, and the greatest efforts have been made to accomplish this end.

However, in view of the difficulties under which the Russian financial administration has recently labored and given the conviction that for the reasons indicated this line offered no prospect of prosperity for the future, it was decided, according to reports, to give up the service until further order. As a matter of fact there does not exist the slightest probability that this line will be reopened for some time to come, for the exchange of products between two countries such as Russia and the United States which compete in the world market in their principal output—namely, agricultural produce—can never become sufficiently important to maintain a regular steamer service between Libau and New York. It is impossible to build up a line on the steerage traffic alone.

ARGENTINA.

SEVERAL NEW STEAMSHIP LINES FROM EUROPE TO BE INAUGURATED.

Consul-General Richard Guenther sends from Frankfort the following information concerning prospective new shipping lines from Europe to Argentina:

The continued and growing prosperity of the Argentine Republic induces the industrial countries of Europe to stretch out their trade tentacles in that direction. Various new steamship lines to Argentina are planned or are in course of organization. Among these are a line from Sweden and one from Denmark, which are to transport Scandinavian emigrants and products. Holland has decided to grant a subvention for a new steamship line to South American countries. Austria is about to reorganize her steamship service to that part of America, and Russia is contemplating the establishment of direct steamship connection with South America. Shipping and merchant-marine interests have been suffering for some time past, which causes parties concerned therein to look up and seize other opportunities for employment and to reduce losses. It is this fact which brings new competitors into the Argentine foreign trade.

BERMUDA.

NEW LINE PROJECTED FROM NEW YORK TO ST. GEORGE.

A report from Consul W. Maxwell Greene, at Hamilton, says that there seems to be a reasonable prospect that a new line for passenger service may be established for the coming season between New York and St. George, Bermuda. He writes:

The Bermuda Atlantic Steamship Company has been tentatively formed by an association of business men in Bermuda and the United States. An excellent steamer, with capacity for 150 first-class passengers, to carry no freight nor second-class passengers, and to make the distance between New York and St. George in forty-five hours from dock to dock, is promised for the coming season. Passengers who prefer to go to Hamilton will be provided with passage to that port or can drive over by land in about one and one-fourth hours.

DUSTLESS ROADS.

BELGIUM.

ROAD BUILDERS SEEKING TO ELIMINATE THE DUST NUISANCE.

Consul Abert Johnson, of Liege, calls attention to the experiments that are being made to produce a dustless road for the country districts of Belgium. He says:

The increasing popularity of the automobile in Belgium has given rise to serious study on the part of the department of public works of the problem of rendering the highways of the Kingdom dust-proof. Specialists are not agreed as to the most efficacious and economical method of combating the dust nuisance. Various experiments have been carried on with different substances for testing their relative merits, but the results have not been satisfactory, and the commission of public roads are of the opinion that future experiments will result in the discovery of some material better adapted for the purpose than any that has yet been tried.

During the famous autocar tests last year in the Ardennes the entire circuit was treated with tar, and this process of dust elimination proved highly satisfactory to the automobilists. The beneficial effects, however, of this tarring process were of rather too short duration, considering the expense entailed—7 centimes ($1\frac{1}{3}$ cents) per square meter. As in this case all of the expenses were borne by the organizers of the auto tests, the Government was enabled to profit by the experience without the necessity of any outlay on its part. In these tests it was demonstrated that while the effects of this tarring process lasted it proved satisfactory, but the beneficial effects were hardly lasting enough to warrant its use throughout the country. The minister of public works has in hand a number of substances that lay claim to the title of dust preventatives, and it is proposed to carry on experiments with a view to testing their efficacy during the present summer.

In view of the fact that this question is being agitated in certain sections of our country, it may be worth while for some American inventor or manufacturer of antidust substances to ask the Belgian department of public works to give his production a trial.

GREECE.

AMERICAN OIL MAY FIND AN OUTLET FOR DUST LAYING IN ATHENS.

Consul-General George Horton furnishes the following information concerning the dust nuisance in the Greek capital and to the probable use of American oil for abating the same:

There is probably no city in the world where dust is so pronounced a nuisance and so difficult a problem as in Athens. During the spring months especially, when residence in the city would be otherwise delightful, winds prevail which sweep the dust into thick clouds, comparable to nothing but sand storms in a desert. The city authorities have been fighting this plague with the limited means in their power. Several of the principal streets and squares have been covered with asphalt, and as much water is used for sprinkling as can be spared, but the supply is inadequate. Salt water could be

brought up from Piraeus, a distance of only 10 miles, but there is a fixed objection to this, as it is generally believed here that salt water used on the roads is injurious to the eyes and destructive to vegetation.

I recently submitted to the mayor and the city council a report of the commission of public parks of a western city on the successful use of oil in that place for sprinkling. The report aroused considerable interest, and I have received a letter from the mayor, wherein he desires me to secure the following information relative to the sprinkling of streets with petroleum:

(1) Is the oil used the ordinary oil for lighting or some other kind, unclarified? (2) At what price can the oil be bought, and where? (3) How is the oiling done—that is, are the streets prepared beforehand or is the oiling done in the same manner as water is applied; if not, how? (4) Is there a company that contracts for this kind of work; if so, on what terms would it undertake experimental operations in Athens?

I should be glad to hear from persons who sell the necessary product or who might be interested in applying it, and will have translations of their communications made and handed to the mayor. Should this oil prove successful in Athens, there might be similar use for it in other parts of Greece, where dust is also a great nuisance.

INLAND WATERWAYS.

BELGIUM.

A DEEP WATERWAY WILL CONNECT GHENT WITH THE SEA.

Consul W. P. Atwell, of Ghent, gives the following description of the new harbor and the improved deep canal that will connect that Belgian city with the Atlantic:

The works which have in late years been carried on toward the improvement of the Terneuzen canal are advancing rapidly and the canal connecting Ghent with the North Sea will be completed about the beginning of next year. On Dutch territory the work has lately been pushed with great activity so that the greater part thereof is completed. The last contract for deepening and improving the harbor of Terneuzen, the Dutch end of the canal, was signed and passed by the Dutch authorities December 18, 1907, and provided that within 300 days the new maritime lock at Terneuzen, fitted with machinery permitting the temporary working thereof by hand, be opened to vessels. When this lock is completed it will be worked by electricity. The existing locks permit the passing through into the Terneuzen canal of vessels of not more than 17 feet draft, while the new lock will permit the safe passage of vessels of 25 feet.

DETAILS OF THE PROJECT.

The dimensions of the new lock will be 459 feet long, 59 feet wide, and 17 feet deep at low tide. The bridges on the canal will be opened and closed by electricity, while the total distance of 20 miles separating the port of Ghent from the sea will be fitted with electric arc lights placed at intervals of 490 feet. The narrowest part of the canal is 220 feet at the surface of the water and 78 feet at the bottom. The depth is 28½ feet.

The length of the canal improved will be 20 miles; 10½ miles on Belgian territory and 9½ miles on Dutch territory. The total width over water line on Belgian territory will be 318 feet, while at the bottom the width will be 78 feet with a depth of 28½ feet. The width over water line on Dutch territory will be 220 feet with 78½ feet at bottom and the same depth.

Commercial docks will be provided with wharfage facilities of a total length of 5,250 feet, with nine sheds. The depth varies from 17 to 21 feet. Lumber docks will have 919 feet of wharfage, 278 feet wide, with three sheds covering 83,292 square feet. The "forehar-bor" will have 7,215 feet wharfage, 295 feet wide, and a depth of 21 feet.

The Terneuzen canal when completed will permit the safe entry of large trans-Atlantic cargo boats. The city authorities are informed that as soon as the improvements are completed a new line of steamers will ply from Ghent to Galveston.

GERMANY.

AUTOMATIC LOCKS FOR UTILIZATION ON RIVERS, DAMS, AND CANALS.

Consul William Thomas Fee, of Bremen, furnishes the following information concerning the automatic locks recently built on the Weser and the possibilities of the system wherever there is a fall of water, artificial or natural:

Through the constant deepening of the bed of the Weser on its lower course, the water level upstream having been lowered so much as to cause damage to the adjoining farming country, the Free State of Bremen found it necessary to build a dam at Hemelingen, near Bremen, for the purpose of conserving the water levels of the upper Weser. This dam is provided with two locks, measuring 350 by 12.5 meters (1,148.3 by 41 feet), and 70 by 12.5 meters (228 by 41 feet). The opening and closing of these locks is to be done automatically by an ingenious device which utilizes directly the fall of the river without the aid of power machines. The system employed here can be used wherever there is a natural or artificial fall of water. It is certainly destined to revolutionize the workings of all locks on rivers, dams, and canals.

As the locks at Hemelingen will not be completed before next year, I took occasion to inspect a model of the system, the simplicity and usefulness of which has induced me to report this matter, anticipating that this invention would probably be of use in the United States, especially on the locks of the Panama Canal. The great advantage of this system as applied to the opening and closing of gates of dam or canal locks is that no power machine is needed, and consequently no costly attendants of such machines are required. One man, who need not be even a machinist, can easily attend to the opening and closing of the lock gates; only one cock is to be turned—the rest is the self-action of the system. [In transmitting illustrations showing the working of the locks, which are filed in the Bureau of Manufactures, Consul Fee reports that application has been filed in the United States for a patent covering the system.]

SUEZ CANAL.

MATERIAL INCREASE SHOWN IN BOTH TONNAGE AND RECEIPTS.

Consul-General Robert J. Wynne makes the report that the returns of shipping and tonnage of the Suez Canal from London show that British tonnage passing through increased 1,195,937 in 1907 as compared with 1906; the increase of German tonnage was 98,099. The net tonnage also exhibits an all-round increase, the figures for the past year showing an increase of 1,282,930 tons as compared with that of 1906 and an increase of 1,594,329 over 1905. Receipts during 1907 showed an increase of $1,557,000 as compared with 1906. This increase, the returns set forth, was not due to abnormal causes, but to the general activity of trade during that year.

JAPANESE ELECTRIC LINES.

EMPIRE WELL SUPPLIED WITH MODERN FACILITIES FOR TRAVEL.

Consul Hunter Sharp, writing from Kobe, states that there are no cities of any note in the Japanese Empire that do not possess a system of electric tram cars, omnibuses, or motor cars, and almost every important place or pleasure resort in the country is connected with the main cities by one of the means of locomotion mentioned, so that the capital invested in such undertakings has reached an enormous amount. There are eight tramway lines running, with an aggregate capital of $18,530,000 gold. Adding smaller companies and several enterprises not yet opened, the aggregate capital of all the lines—those in operation or about to be operated—reaches a grand total of over $50,000,000, with a mileage of 545.

MOTOR LOCOMOTION.

APPLIED TO BOATS.

SCOTLAND.

EXPERIMENTAL USE OF MODEL VESSELS IN FISHING FLEET.

The following report concerning the efforts of the Fishery Board to induce the Scotch fishers to adopt the use of motor boats is furnished by Consul Rufus Fleming, of Edinburgh:

In the entire Scotch fishing fleet, comprising 10,365 vessels, having an aggregate tonnage of 144,385 tons, there are not more than six boats propelled by motor power, and these have been recently introduced in the Clyde area. On the North Sea coast of Scotland no motor boat is at present employed in the fishing industry, notwithstanding that the Fishery Board for Scotland has earnestly endeavored, in a practical way, to induce fishermen to adopt the motor.

In 1905 the Fishery Board began an experiment in the application of auxiliary power to sailing fishing boats of the common type. A Fife fishing boat, measuring 72 feet over stems, with 21 feet of beam and drawing about 8 feet of water aft, was purchased and fitted out at a cost of $3,806. A 4-cycle 25-horsepower motor, of Danish manufacture, was installed, being fitted in the cabin and occupying comparatively little space. To obviate any danger of explosion, the fuel used was ordinary paraffin, which was stored in two tanks fitted into the wings of the boat. The motor was started from the deck of the vessel by one man, who also attended to the helm. It started on a free engine, and was connected to the propeller shaft by a metal-to-metal clutch. Both inlet and exhaust valves and also the silencer were water-jacketed all around, an arrangement which kept down the heat generated by the explosion of the gas.

The propeller, which had only two blades and was reversible, could be feathered fore and aft, so that there was no drag on the boat when under sail. Going astern was accomplished by means of gear on the shaft which reversed the shafts of the propeller, and the reversing gear and all controlling arrangements could be operated by the helmsman without leaving the wheel. The capstan, originally fitted into the vessel for hauling the nets and gear and hoisting the sails, was also driven off the motor by a chain and horizontal shaft. It was vertical and resembled the ordinary steam capstan, except that it had two barrels, one large and the other small, the one placed on top of the other. The engine and capstan cost $1,703, making the cost of the fully equipped boat $5,509.

CAUSES OF FAILURE—PRINCIPAL OBSTACLES.

With a crew of six men this boat, called the Pioneer, began the season in Aberdeen waters, but in a few weeks the capstan broke down in rough weather and the men were so dissatisfied with it that they refused to put to sea again.

The crew's objections to the motor capstan were (1) that the speed could not be regulated; (2) that for working the sails in bad weather the motor had to be kept continually running, and this involved extra expense; (3) that in case of a breakdown of the engine there was no provision for working the capstan by hand; (4) that no provision was made by which the catch of fish could be hoisted onto the quay; (5) that in hauling the nets in stormy weather the capstan stopped when the strain upon it became too great, so that the engine had to be started again by hand (a steam capstan stops when the strain becomes too great, but it starts again of its own accord when the tension is relieved); (6) that the small barrel of the capstan (which could be more easily regulated than the larger one) injured the bush rope when hauling the nets.

After further efforts and considerable outlay on the part of the board for the improvement of the Pioneer, which was considered satisfactory by the board, that vessel was sold in 1907, and the matter of motor fishing boats left for private enterprise to take up.

The principal obstacles to the introduction of motors in first-class fishing boats at the present time are (1) the dissatisfaction of the fishermen with a speed of less than 8½ knots, and (2) the apparent failure of the motor capstan. Concerning these difficulties, a naval expert employed by the Fishery Board in their experiments says that it is impracticable to drive these bulky fishing boats at such a speed, under existing conditions, "without the sacrifice of considerable advantages and the payment of a far higher price than it is worth." The question of the capstan he regards as a serious one, and dealers in marine motors state that unless a motor capstan can supersede the steam capstan, thus simplifying the working of the boat and saving space, it will be almost impossible to persuade fishermen who operate boats of the highest type to adopt the motor for propulsion.

DEMONSTRATION IS NECESSARY.

It remains for manufacturers of the least expensive marine motors to demonstrate to the owners of such boats that this method of propulsion is economical. In fact, that is an essential step toward the introduction of motors in any class of fishing boats—a demonstration to the fishermen that a type of motor has been devised which will do the work required of it and at a cost not exceeding the increased profits they may reasonably expect from acceleration of their return to harbor, where the first boats in get the best prices.

Scotch fishermen are not easily convinced of the merits of any motor. Some of them have from time to time invested in motors which promised much but failed in performance, and this experience of the few has made all extremely incredulous as to the claims put forward for any device of the kind. Manufacturers must overcome, therefore, not only a natural racial conservatism, but also a strong prejudice. These obstacles are not insurmountable, but it is well that the difficulty should be fully understood. It is the opinion of dealers in this line of machinery that in order to sell here motors for fishing boats to any considerable extent the manufacturers or their agents must operate a boat in the fishing industry, for one season at least, and convince fishermen by the results that the advantages of motor power outweigh the additional cost. The fishermen will not learn

this lesson from the Norwegian, Dutch, or Danish fisheries, where the conditions are somewhat different; they must have it brought directly home to them in Scotch waters.

SUCCESSFUL AMERICAN MOTOR ENGINES.

Consul Fleming further describes the slow progress of the introduction of the motor boat in Scotland and of the success of a boat equipped with American engines as follows:

Owing to unfavorable weather during the greater part of the year and to the almost continuous roughness of the Firth of Forth, in which arm of the sea, moreover, there are only two convenient harbors or shelters for small craft, the motor boat has not become popular on the east coast of Scotland either as a pleasure boat or for other uses. There are few such boats in this district.

The first motor-boat race ever held in these waters took place on July 4 for a challenge trophy presented by a prominent citizen for annual competition on the Firth of Forth by British-built boats fitted with British-built engines. As, however, only two entries were received for the first race under these conditions, the donor of the cup and the racing committee of the Scottish Marine Motor Boat Club agreed to throw open the race to all comers so far as the cash prizes were concerned, reserving the honor of winning the trophy to British craft. A course of 10 miles was set, and the race was run under handicap conditions adjusted by the Scottish Marine Motor Boat Club. Three boats started, two of which were British built and one was fitted with American engines. The last-named boat, with a handicap allowance of twenty minutes, won the first prize money, her actual time being only one minute and eleven seconds more than that of the winner of the trophy.

This first racing event of its class on the Firth attracted much attention and may lead to some development of the trade in motor boats and motor engines. I am informed by a dealer in marine motors that any demand likely to be created in this line will be for boats of 5 horsepower to 7 horsepower.

AUSTRIA-HUNGARY.

AMERICAN MOTOR BOATS AT PORT OF FIUME.

Responding to a New York request, Consular Agent G. Andrew Moriarty, jr., sends the following report on the conditions prevailing at the Austro-Hungarian port of Fiume, with regard to increasing the trade in American motor boats:

From investigations I can not find a large opening for motor boats in this district, consisting of the towns of Fiume and the Croatian counties of Modrus Fiume and Lika Krbava. There are few persons of leisure in Fiume apt to keep motor boats. There are, however, two large companies of torpedo-boat builders, who also build submarines, and they might be interested.

There is at present very little retail trade in such marine craft. There might be some opening in the small watering places along the coast in the neighborhood of Fiume, the trade of which would be commanded from the city itself. The best chance would be in

Abbazia, across the bay from Fiume, where there are at present several motor boats, mostly of French construction. Firms interested in extending such trade here should not now try to engage largely, as there is as yet only a comparatively small field, but it appears to me that by beginning in a small way a trade might be built up in time. It would therefore be wise for American firms to enter into correspondence with the firms in Fiume interested in this line of goods. [List of these obtainable from the Bureau of Manufactures.] While there is at present but little demand for such boats, it would be well worth while for American firms to enter into correspondence with the firms here, as a trade might in time be built up owing to the proximity of such watering resorts as Abbazia and Porto Re.

At present there is a prejudice against motor boats, from the fact that all those introduced have broken down or behaved badly. Furthermore, it is understood that American motor boats are built largely for rivers and lakes. Here another type of motor boat is required, one with a high side to withstand the rough seas of the bay of Quarnero. It is hardly worth while for an American firm to send out a special agent, but great care should be exercised in the choice of an agent to represent them. The best way would be to send out a motor boat to an agent of sound integrity, who could exhibit it and overcome the existing prejudice. [The consul furnishes the name of an engineer who is interested in building and selling motor boats.]

FRANCE.

MOTOR BOATS FOR USE IN THE SARDINE FISHERIES.

Vice-Consul J. D. Wise, of Bordeaux, furnishes the following report concerning the use of petroleum motors in the French sardine fisheries:

In connection with the gradual expansion of the motor-boat industry at this port and the various uses to which the marine motor has been adapted, a striking illustration is furnished by the "pinasse," or canoe, fitted with a petroleum motor now being used with excellent results off the French coast by the sardine fishermen of Arcachon.

The American motor has made a small but successful beginning at Arcachon, its ease of operation and durability winning a place among a strong field of competitors. The growing popularity of the motor-propelled pinasse may yet be instrumental in opening a market to the American product of this description.

EFFECTIVE WORK OF THE PETROLEUM MOTOR BOAT.

The following is a translation from the Bulletin de la Société de Géographie Commerciale of Bordeaux on this subject:

The first attempt at fishing for sardines at Arcachon with boats propelled by petroleum motors dates from the latter part of the year 1906. During the month of September of this year a number of the owners of "canots à pétrole" conceived the idea of using their craft for sardine fishing. The sardine having lingered on the coast between Arcachon and Bayonne, the results achieved were remarkable. The fishing lasted thus during the greater part of the winter, and was particularly productive during October and November.

Stimulated by this success the owners determined to adopt the new system. Constructors were deluged with orders, and it is estimated that before July, 1908, at least 125 pinasses or motor canoes, properly equipped for fishing, will

be navigating the bay of Arcachon. The boats employed are of two kinds, the long primitive canoe with squared ends and the ancient sailing pinasse, to which a motor is adapted.

The fact that winter fishing is conducted far from the waters of the bay will cause the fishermen to eventually use stancher craft, partly bridged over and better able to resist the shock of the sea.

The motors in use range anywhere from 4 to 15 horsepower.

A single pinasse 27 feet in length, carrying a 6 to 8-horsepower motor and a crew of 5 men, caught in fourteen trips 118,500 sardines. This catch sold for 3,662.50 francs ($706.80). The expenses incident to the outlay for bait, oil, etc., amounted to 513.25 francs ($109.05), leaving a net profit of 3,149.25 francs ($607.80).

Another boat of the same type after six months fishing (September 1, 1907, to February 29, 1908) showed a net return of 3,000 francs ($579) to the owner and 1,500 francs ($289.50) to each of the 5 men composing the crew.

A third pinasse caught in twenty-five days 80,000 sardines, which sold for 3,614 francs ($697.50). Most of this fishing was carried on during the winter months under adverse conditions.

It is very certain that without this fleet of pinasses à moteur ocean fishing during winter and summer would scarcely be productive of results, as the sardines are generally beyond the radius traversed by sailing boats of this size.

GERMANY.

TRIALS OFFERED FOR AMERICAN MOTOR BOATS.

Consul William J. Pike, writing from Kehl, calls attention to the following opportunity for furthering the sale of American motor boats in Germany:

The city of Strassburg has very important shipping interests, so far as such can be conducted in an inland town, and a vast deal of commerce is directed through the river Rhine and canals, which makes it a distributing point. The municipal authorities are much interested in any scheme that will enhance their shipping faclities, and with the view of betterment, trials of different classes of motor boats have been made in this connection from time to time.

It has come to my knowledge that the experiments thus far have not been a success, and an opportunity for a test will be afforded American-made motor boats if there are concerns that desire to take up the matter.

Manufacturers of motor boats, for both freight and pleasure purposes, desiring to correspond with an official of the chamber of commerce with the view of introducing their boats into this territory, will be furnished the address and particulars upon application to the Kehl consulate.

JAPAN.

USE OF MARINE MOTOR ENGINES IN THE EMPIRE.

In forwarding a printed report prepared by the British consul at Kobe, Consul-General Henry B. Miller, of Yokohama, writes:

This report deals more especially with the situation in Kobe consular district, and that is likely to be the most important market for engines of this type for use in Osaka, Kobe, and generally through the inland sea. It would therefore be advisable that correspondence concerning these engines be sent to the Kobe consulate. The British consul's report follows:

Japanese engines—roughly made, which serve the purpose very well—are intended to use the coarsest and commonest oil which is produced in Japan.

Possibly the finer British machine would need a better class oil. Also, there is no doubt in the mind of the writer that British-made engines (using kerosene) would always be bought in preference to Japanese, at a somewhat higher figure and higher cost of running, but at present the Japanese, having become aware of the advantage of using marine motors, must be content, when these are required for business purposes only, to use cheap Japanese-made motors, as no other are to be had at anything like the same figure. The workmanship of the British-made motor is much admired, but the outlay for such would not be made up by increased earning capacity by the vessel using them. For pleasure boats the demand for motors is limited to a few foreigners. Nor do the Japanese motor builders claim to make much, if any, profit on the machines they turn out. The demand exists, but so far it is not being met satisfactorily.

It is assumed that all leading marine motor builders have now agents in this country. In one case only, it is believed, have they on the spot an engineer capable of supervising the installation of motors or explaining their proper working. It is suggested, however, that if British motor makers wish to push their manufactures in this country they must go to the expense and trouble of being thoroughly well represented and having on the spot a practical engineer who should have at his disposal motors of several sizes, 10, 15, or 25 horsepower, to give practical demonstration of their qualities, and that not in British-built boats necessarily but in any or every kind of native craft in which it is possible to fix a motor. Five minutes' practical demonstration is worth piles of catalogues and advertisements, particularly to the Japanese. Schooners of 59 tons and upward seem most to need motors to help them to get through inland sea.

CANADA.

FACILITIES FOR MOTOR BOATS IN THE PRESCOTT DISTRICT.

Consul Martin R. Sackett furnishes the following information concerning the opportunities for American gas engines in the Prescott consular district:

The use of the internal-combustion engine, or gas engine, is fairly general in this consular district. It has long ceased to be a novelty. It is used in shops of every sort where light power is required.

This district is one in which the facilities for motor boating are unexcelled, as it fronts on the St. Lawrence, whose waters are perfectly adapted for motor boating. The Thousand Islands region of the great river, for a portion of its length, is within its bounds, and in these waters every sort of motor boat known is to be seen. It is true that the greater number of such craft are of American make and ownership, but their presence, with only an invisible boundary line to separate them from Canada, has made Canadians wholly familiar with such craft and stimulated their manufacture at home. The Rideau River and lakes are also in this district, also Charlestown Lake; all waters well adapted for motor boating. There are no large factories for the manufacture of either boats or engines, though both are made on a small scale at Prescott, Brockville, and Smiths Falls.

CUBA.

POSSIBLE CHANCE FOR SALES AT SANTIAGO.

In reference to the demand and possible demand for American marine gasoline engines, motor boats and their equipment in Cuba, Vice-Consul H. M. Wolcott, of Santiago, states as follows:

It would seem that this district, with its many beautiful harbors and waterways, should be a good field for the sale of motor boats and accessories, yet there are comparatively few in use. This is

principally due to the lack of facilities for repairing the motors when they get out of order and the high cost of gasoline here. Then, too, the Cuban people are not much given to indulgence in boating for pleasure. There is one so-called "nautical club" in this city, but boating seems to be a minor attraction with its members, notwithstanding the fact that the harbor of Santiago presents a most attractive field for this sport.

However, a motor boat, reasonable in price, easy to operate and keep in repair, might find some sale here if its practicability were properly demonstrated. I would suggest that the best way to introduce motor boats here would be for some firm to send an active representative, with a boat for demonstration purposes, who would be able to appoint and instruct agents and awaken the interest of the people. I do not anticipate that many orders would be secured just at present, yet the foundations might be laid for a fairly good trade in the future.

[The names of possible agents and buyers of motor boats may be obtained from the Bureau of Manufactures.]

APPLIED TO VEHICLES.

UNITED KINGDOM.

DULL TRADE BOTH IN AUTOMOBILES AND MOTOR CYCLES.

The British official returns for the six months ended June this year show importations into the United Kingdom of 3,879 automobile chassis and complete cars valued at $6,574,797, as against 2,801 cars valued at $5,706,249 for a similar period last year. In 1907, however, parts and fittings equaled $6,405,992, while this year they only amounted to $4,068,715, so that the total motor-car imports of all kinds for the six months ended June, 1908, $10,643,512, show a drop of $1,459,950 in comparison with $12,112,242 in 1907. Motor cycle imports also show a decrease despite the increase in popular favor of this kind of sport. During the first six months of this year the import figures were 908 cycles, valued with parts at $176,201. For the same time last year the figures are 1,142 cycles, valued at $241,558.

As to British exportations for the six months ended June, 1908, some 390 motor cycles and parts, valued at $119,156, were sent abroad in comparison with 330 motor cycles and parts, valued at $127,171, for a similar period in 1907. Thus, despite an increase of 60 in the number of motor cycles imported, the total export value decreased by some $7,300.

For the first six months of 1908, 991 motor cars were exported, a big increase over last year's figures, which were 886. In the total values, however, the first six months of 1907 yielded a total export of $2,840,605, while this year's figures are only $2,822,662.

MOTOR OMNIBUSES IN LONDON.

Consul-General Robert J. Wynne reports that a statement by the home secretary shows that there is now one motor-omnibus for every 2-horse omnibus plying in the streets of London. The full statement of the number of licensed vehicles in London is as follows: Taxicabs 1,508, hansoms 5,329, 4-wheeled cabs 3,768, motor omnibuses 1,046, horse-drawn omnibuses 2,281; total 13,932.

ALGERIA.

GOOD PROSPECTS FOR MODERATE-PRICED MOTORS.

Consul James Johnston, of Algiers, furnishes the following information concerning a possible market for American motor cars in Algeria:

There are good prospects of a permanent market in Algeria for a light, strong, moderate-priced car. Autos are extensively used by wine and oil merchants who have to travel in districts where as yet the railway does not exist.

In order to introduce American motor cars and establish a market therefor the manufacturer must be prepared for a little expense. The only effort that appears to have been made thus far in this direction has been to send catalogues in English, but it is unreasonable to expect to sell motor cars on the strength of catalogue description, and no agent would entertain the idea of representing a line of autos unless he had a sample car for demonstration.

The duty on motor cars from the United States is 60 francs per 100 kilograms ($115.80 per ton of 2,240 pounds) on cars weighing 125 kilos and over. The duty on the same cars from other countries is 50 francs per 100 kilos ($96.50 per ton).

[A list of prominent dealers in Algiers, together with miscellaneous information relative to conditions in Algeria interesting to American manufacturers desirous of opening trade in that French possession, is on file in the Bureau of Manufactures.]

CANADA.

AGENCY NEEDED IN PRESCOTT DISTRICT.

Consul Sackett, of Prescott, reports on the use of motor vehicles in that district:

Comparatively few motor vehicles are owned here. There are perhaps half a dozen in Brockville, three in Prescott, and a few elsewhere scattered about the district, but for some reason their use has not become common. Nor is this, in my opinion, for reasons of expense. There is much wealth among the people. I can not find that there is any regular agency in the district for the sale of motor carriages. There ought to be such agency, and it is my belief that a car of moderate cost would find good sale, if such sale were pushed by the personal appeal of a good agent. The roads of the district are no better nor are they worse than is the case in the average country section, while the main thoroughfare, east and west, along the St. Lawrence River bank is, much of the way, macadamized, and far better than the average highway, while its scenic attractions are hard to duplicate anywhere. There is hardly a day during the season when automobiles do not cross the St. Lawrence here by ferry from the United States, en route to Toronto, Montreal, Ottawa, or other points of interest to tourists and pleasure seekers through Canada. This section is well worth prospecting by the manufacturers of a safe, hardy, moderate-priced automobile of American make.

AGRICULTURE.

FARM CROPS AND METHODS.

JAPAN.

TWO AND THREE CROPS RAISED ANNUALLY FROM ONE FIELD.

Consul Hunter Sharp, of Kobe, transmits the following review of agricultural conditions in Japan, in which he calls attention to the natural obstacles that confront the agriculturist, the aid extended to him by the Government, and the results obtained from a very small acreage:

Japan has an area of 148,852 square miles, and, according to the census of 1906, a population of 48,304,397. Sixty per cent of the people are agriculturists, and yet on account of the mountainous nature of the country, only about one-sixth of the total area is under cultivation. Efforts are being made to enlarge the small irregular lots into which arable land is divided; to rearrange and straighten roads built for agricultural purposes and waterways; to put to profitable uses pieces of land which now lie waste among cultivated fields; to improve land by irrigation; and to promote the use of machinery in agricultural pursuits.

Recent investigations have been made as to the possibility of converting woodlands into rice fields by utilizing the water of certain rivers, and the scheme has been found feasible. As the result, 3,000 acres of land in this prefecture alone will be taken up for cultivation in the near future.

With the object of facilitating the supply of capital for agricultural purposes, the Government in 1896, established the Hypothec Bank of Japan, as well as the Agricultural and Industrial banks.

The Government, moreover, established experimental stations at Tokyo and in certain provinces for the purpose of making experiments in the selection and supply of seeds and seedlings, also to make investigations relative to insect pests and agricultural implements.

WAGES AND TAXES—PRIMITIVE IMPLEMENTS STILL IN USE.

The farm laborer works from sunrise to sunset. Men receive 17 to 22 cents, and women 10 to 15 cents per day, the employer paying for their subsistence. The value of farm lands varies according to proximity to market and quality. The average value of rice fields is about $1.50 per tan (tan = 0.2451 acre); and for uplands $50 per tan. Taxes assessed on these lands are: National tax, 5½ per cent of the value of the land; prefectural tax, 17½ cents for every 50 cents of the national tax; village tax, 4½ cents for every 50 cents of the national tax. Taxes for repairing roads and water privileges vary from 50 cents to $1 per tan.

Modern implements have not yet been adopted in this country. The narrow-blade plow and the foot-tread machine for irrigating

are still in use. Sowing, harvesting, and thrashing of grain are done by hand, the small and irregular size of the fields preventing the use of large machinery, individual holdings varying from one-half to ten acres. Consignments of plows have been made here, but have not met with success, the native plow being cheaper and better adapted to the work. The duty on farming implements is 20 per cent ad valorem. [Pictures of these Japanese implements, with retail prices and dimensions, were submitted with this report and may be seen at the Bureau of Manufactures.] On the land known as rice fields, wheat, barley, or rape seed are sown about November, the crop being gathered the following June. Immediately afterwards the rice is planted, and is harvested in October. On the upland fields either wheat, barley, or rape seed is sown and harvested at the same season as above mentioned; after which corn, cotton, beans, panicum miliacum, and various vegetables are sown, maturing at different times. Millet and potatoes are planted in March and gathered in August; buckwheat is sown in August and harvested in October. In the southern part of Japan two crops of rice and one of wheat or barley are grown the same year, though but one crop of rice is raised during the year in Hokkaido.

FERTILIZERS FREELY USED.

Not only from the fact of having to raise several crops a year, but because of the long number of years the lands have been under cultivation, they require heavy fertilizing to obtain favorable results. The remarkable increase in the demand for artificial fertilizers is a noteworthy feature of Japanese agriculture. Ten years ago the demand was met by home products, but with the development of agriculture supplies have been sought from abroad. In 1906 the importation into Japan of oil cake alone amounted to $7,793,766, of which China supplied $7,436,958; ammonium sulphate, $2,637,751, to which Great Britain contributed $2,543,264, while the United States sent nitrate of soda to the value of $34,236; oil cake, $3,823; and phosphorites, $74,211, aggregating $112,270.

In addition to the artificial manure imported, animal excrements are collected from all parts of the country with great care, stored in cesspools in the fields, and applied to the growing plants in the cultivation of barley, wheat, and various kinds of vegetables. The value of the fertilizers used per ton is about $3 to $4 for rice fields and $1.50 for upland ground.

PRACTICE OF IRRIGATION.

Irrigation in Japan is carried on mostly by canals; reservoirs and artesian wells are used only to a limited extent. The water is generally led by ditches into the rice fields until it has accumulated in sufficient depth and volume. The fields are level and are encircled by boundary walls about 13 inches in height, which are so arranged as to allow the water to enter at one side and flow out by an outlet at the other side into the adjoining field or ditch. Raising the water is generally effected by tread wheels worked by men or by dipping up river or well water in buckets by hand, no pumps being used.

The irrigation works are built by water supply associations and are under the control of a county or village official. The average cost of these works is about $60 per acre, with expenses of about 70 cents per acre per annum. The total storage capacity provided for irrigation per annum is about 60,000 cubic feet per acre. [Photographs of irrigated rice fields submitted herewith are on file in the Bureau of Manufactures.]

ONE YEAR'S CROP.

According to the statistics of 1906 the agricultural products of Japan are given as follows: Rice, the chief crop, has an acreage of 7,104,072, with a production of 229,794,826 bushels; barley comes next, with 3,359,238 acres and a production of 81,407,291 bushels; wheat, the principal crop in other grain-producing countries, occupies only 1,086,118 acres, with a yield of 19,664,325. An average crop for these three is about 30 bushels per acre. Other agricultural products are:

Crop.	Production.	Crop.	Production.
	Bushels.		*Pounds.*
Soy beans	17,655,973	Leaf indigo	58,804,302
Small red beans	4,449,408	Leaf tobacco	97,165,741
Italian millet	11,478,386	Rape seed	5,551,996
Panicum prumentaceum	3,799,266	China grass	4,967,446
Millet	18,006,247	Sugar cane	1,455,043,119
Buckwheat	5,970,319	Paper mulberry (bark dried)	68,797,266
Peas	1,389,706	Mitsumata (bark dried)	465,599,833
Beans	2,025,623	Wax, vegetable	97,146,002
Peanuts with pods	1,841,777	Rush for matting	92,935,059
Corn	3,032,367	Pyrethrum	224,740
Plums	3,005,721	Menthol leaf (dried)	20,774,156
	Pounds.	Food lily bulbs	4,575,084
Sweet potatoes	6,604,297,620	Ginseng	373,549
Potatoes	1,123,413,350	Peaches	49,291,672
Radish (Daikon) (principal vegetable consumed in this country)	5,244,950,658	Tea	58,362,758
Carrots	196,574,083	Pears	114,968,085
Burdock	276,516,818	Persimmons	383,118,953
Konniaku (edible root)	72,424,464	Apples	46,945,305
Bamboo sprouts	115,477,963	Grapes	20,467,495
Ginger	48,770,327	Oranges (Onshu and Kishu)	281,374,552
Chillies	2,435,168	Oranges (all other kinds)	128,960,322
Lilies (green)	4,575,084		*Number.*
Cotton seed	13,270,985	Snake gourds (dried)	4,004,734
Hemp	22,127,924	Lily bulbs for flowers	24,036,599

EXPORTS OF AGRICULTURAL PRODUCTS.

Articles.	1906.	1905.	1904.	1903.	1902.
Apples	$131,692	$22,223	$5,667	.....	.....
Barley	.....	.....	.....	$10,234	$2,570
Beans, pease, and pulse	76,061	70,948	60,397	51,142	45,903
Chillies	44,323	42,429	58,565	82,563	42,275
Ginger	117,665	55,462	123,098	188,684	158,186
Mandarin oranges	408,680	187,398	61,143	86,005	57,202
Onions	193,973	97,098	62,935	84,438	64,515
Peanuts	150,102	129,350	144,150	167,688	178,585
Potatoes	198,678	133,305	135,243	132,038	79,041
Rice	1,836,167	1,547,210	2,340,938	2,470,025	3,326,413
Tea	5,362,011	5,270,993	6,391,250	5,939,706	5,221,040
Other grains and seeds	279,155	229,078	115,138	43,297	22,707

In agricultural products, tea forms the largest single item of exports, the United States taking about 90 per cent, the remainder

going to British America, China, Straits Settlements, Korea, and the Hawaiian Islands. Rice comes next, the Hawaiian Islands using one-fourth, China, Asiatic Russia, and the United States about one-seventh each, British India and Australia the balance. The United States receives more than two-thirds of the peanuts exported, Australia, British America, Asiatic Russia, Great Britain, Hongkong, and Egypt following in the order named. Oranges and apples go principally to Asiatic Russia, a few shipments going to China and Korea, while the United States takes only a little of either. The export of potatoes has increased from $79,041 in 1902 to $198,678 in 1906, the Philippine Islands taking more than half, and the neighboring Asiatic countries the balance. The trade in onions has grown from $64,515 in 1902 to $193,973 in 1906, the Philippine Islands and Asiatic Russia consuming more than half between them, and Hongkong, China, Australia, and Korea the remainder.

IMPORTS OF AGRICULTURAL PRODUCTS.

Articles.	1906.	1905.	1904.	1903.	1902.
Beans, peas, and pulse	$4,839,708	$5,275,370	$4,295,174	$3,980,720	$2,881,780
Millet	7,914	1,395	4,096	.....	.....
Rape seed	260,405	114,368	2,715	.....	.....
Rice	13,083,695	23,894,670	29,776,372	25,876,215	8,839,907
Cotton seed	507,124	541,831	395,882	412,851	392,259
Sesame seed	450,829	375,415	228,939	185,811	212,523
Tea	23,908	20,815	16,138	16,286	15,174
Wheat	683,130	1,998,022	765,313	2,374,384	119,545
Other grains and seeds	104,211	952,285	921,939	592,515	613,123

Although Japan does not raise enough rice for her own needs, Japanese rice is exported to other countries, as its superior quality commands a high price, a cheaper grade being imported from British India, Saigon, Siam, and Korea for consumption by the poorer classes, five-eighths of the whole amount coming from the first-named country.

Notwithstanding beans, peas, and pulse are grown largely in this country, they come second among imports of agricultural products, being supplied in about equal proportions by China and Korea, small amounts coming from other neighboring Asiatic countries. These articles are prepared in various ways and form, next to rice, the staple food products of the people of this country.

Practically all the wheat comes from the United States, it being the largest agricultural product imported from that country; Korea, Australia, and British India send only small amounts.

AGRICULTURE IN FORMOSA AND SAKHALIN.

Formosa, with an area of 13,519 square miles, had a population in 1906 of 2,993,345, and produced in 1905 43,215,394 bushels of rice, 1,418,304,373 pounds of sugar cane, 16,281,970 pounds of tea, 1,508,481,344 pounds of sweet potatoes, other products being ramie 3,489,533 pounds, jute 3,303,056 pounds, and turmeric 65,292 pounds.

Japanese Sakhalin has a total area of 12,582 square miles, of which 89,296 acres can be cultivated, and in 1906 the population was 8,569. The agricultural products are barley, wheat, rye, oats, potatoes, peas, kidney beans, soja beans, red beans, hemp, flax, and vegetables. Of these the most successful are potatoes, barley, rye, oats, and wheat, and in a lesser degree peas, hemp, and flax.

RUSSIA.

CORN PLANTED OVER A LARGE AREA—USED FOR FOOD AND FOR FODDER.

Consul John H. Grout, of Odessa, gives the following account of the growing of corn in Russia and its exportation:

Maize is grown for its grain in Caucasia and in south Russia up to about 48° or 50° of latitude, and also in Central Asia. In the vicinity of Odessa, as well as somewhat farther north, and occasionally in the Baltic provinces, it is cultivated as a fodder plant. The green plant here in the south is credited with having deleterious effects upon animals fed with it. In some parts of southern Russia, like Bessarabia in the west and Caucasia in the east, maize is grown not only for local consumption, but for exportation, finding its way into the world's markets from Bessarabia by way of Galatz and Odessa, and from the Caucasus by way of Novorosisk and Poti.

The annual maize crops vary considerably as to quantity and quality. Exports of maize from this district vary from about 30,000 to over 100,000 tons, about 1,500,000 acres being under cultivation in European Russia. In Bessarabia as much as 25 per cent of the arable land is used for the cultivation of maize as an article of food. They boil the not fully matured ears, which they salt and eat hot. The people also mix maize flour with other flour for making bread and a kind of stout porridge called "mamalyga," which forms the staple food of these Moldavians. The inhabitants of southern Russia also like to eat the seed off the half ripe boiled ears, but most of them have a dislike for maize porridge or bread with an admixture of maize flour, which they consider as indigestible and injurious. The grain of maize is used to fatten hogs and poultry. Various kinds of maize are cultivated; nearly all kinds of American varieties are known here. A yellow and somewhat nondescript variety of roundish kernel predominates, and is known as Roumanian maize. In good years, when the ears are large and well filled, the seed is laterally compressed, not much different from the "Dent" variety, except that the top remains smooth and rounded off outward. Little or almost no maize appears to be used in Russia industrially.

CLIMATIC CONDITIONS.

All sections of Russia where maize is grown, with the exception of a narrow belt of Caucasia, where it fringes upon the Black Sea, have a strictly continental climate. The winters are apt to be very cold and the short summers extremely hot and dry. The annual rainfall ranges from 10 to 18 inches. The difficulty in agriculture here is not so much in the absence of moisture, but in the fact that the rainfall does not occur when it is most needed. As a consequence, that plant is most valuable which possesses the greatest vitality to tide over a long period of drought. The maize grown here possesses this characteristic, possibly evolved by long-continued natural selection. It often occurs that just the year when all other cereals give poor crops, maize turns out well. This is always the case when, after a long drought in the early part of the season, abundant rains falls too late for wheat, barley, or rye, although still in time to save the maize. Such was the case in 1907.

The soil in most parts of southern Russia is extremely well adapted to all kinds of agriculture. It is undulating ground of fine-grained

alluvial earth free from stones. The cultivators rely upon the natural fertility of the soil, aiding the same only in rare cases with stable manure. Artificial fertilizers are rarely employed outside of sugar-beet plantations.

Maize planting is done quite as often by hand as by drilling. Cultivation is effected by hand labor or by plowing between plants, and often, owing to the weed-grown condition of the fields, by both. In a similar manner harvesting is done on the smaller farms by manual labor, while upon large estates machinery is employed. The probability is that, as the valuable qualities of maize become known and understood by the Russian peasants, and its employment in industries opens a more profitable sale locally, the area devoted to maize cultivation will extend.

CANADA.

EXTENSIVE REGION DEVOTED ALMOST WHOLLY TO POTATO CULTURE.

The following information concerning the cultivation of potatoes by the French-Canadian farmers in the Canadian consular district of Rimouski is furnished by Consul Frederick M. Ryder, of that place:

Every acre of available land in this consular district is planted in potatoes for which the soil appears to be peculiarly adapted. Driving along the highway skirting the St. Lawrence or traveling on the railway for a distance of, say, 200 miles, at the proper season, one sees nothing but field after field of potatoes in blossom.

The soil is a dark, sandy loam, with sufficient body to retain fertilizers, and inasmuch as barnyard manure is seldom utilized (and then only in a thoroughly decomposed condition) the fields are almost free of weeds, so that cultivation is only necessary for the purpose of loosening the soil and hilling the plants.

The seasons are generally two weeks later than Montreal or Quebec and the frosts at least a week earlier; consequently the variety of vegetables which thrive in those localities can not, it is claimed, be successfully raised in this vicinity. There is little or no corn, for instance, as the season is too short, and the cultivation of celery is not attempted for the same reason; in fact, general market gardening is practically unknown, such vegetables as cabbages, tomatoes, cucumbers, etc., being usually brought from Montreal. Yet neither of the above-mentioned sections can compete with this district in successful potato culture in either quantity or quality. This entire district is known as the "potato belt of the province."

USE OF FERTILIZERS.

For fertilizing purposes herring, and a species of a small fat fish, are used in great quantities. Along the banks of the St. Lawrence River at frequent intervals fish-weirs are constructed, and in the month of May, principally, immense quantities of these fish are taken.

The farmers come from all directions with their wagons, which have a capacity of about 1,200 pounds each, and purchase their supply direct from the fishermen at 50 cents per load. Many of the farmers are financially interested in these weirs; several of them will form a partnership for the purpose, buy some favorable location,

and construct a weir, rather than be dependent upon the fishermen, who lose no opportunity of securing the highest prices for their catch.

In the early part of the season the fish are of a superior grade, and these are sold for food or salting, and are shipped to the dealers in large cities. This usually lasts for a week or ten days, after which time the catch is disposed of for fertilizing purposes.

As an addition to fish fertilizer the farmers gather quantities of rockweed along the shores of the river. This becomes detached from the rocks in the Gulf during the fall and early spring storms, and is piled upon the beach for miles by the high tides to a height of 2 or 3 feet. This weed contains the necessary amount of saline nourishment which the soil requires. The land is fairly well covered with the fish and rockweed preparatory to plowing.

The seed potato is cut so as to retain two well-formed eyes and the pieces are dropped into the furrows about 12 inches apart. The more painstaking planter will place a fish between the pieces. The work of planting is done mostly by women and boys; labor-saving machinery, such as the potato planter and digger, being unknown, but a few of the more progressive farmers are equipped with a sulky or gang plow.

The farmers rely upon this product of their farms for their ready money, raising sufficient fodder for the cattle with, perhaps, a few tons of hay for sale. Consequently when the potato crop is a failure there is a scarcity of money in the district.

In former years the entire yield was disposed of on the field, but many of the thrifty growers to-day keep their potatoes through the winter by storing them in pits 8 to 10 feet deep, dug in some well-drained location on the field, and in the spring realize sometimes double the price on their crops.

ENGLAND.

PROSPEROUS ASPARAGUS SEASON IN EVESHAM DISTRICT.

Consul Albert Halstead, of Birmingham, writes that in the great vegetable and fruit growing vale of Evesham, England, almost 3,000 acres are devoted to the cultivation of asparagus. The season of 1908 recently ended, and, though the cold spring cut short the yield by one-third, it was quite prosperous, the average price for a bundle of 120 sticks of ordinary asparagus being 36 cents. The crop for this year was never exceeded in quality. The highest grade of asparagus brought high prices, some selling in the midst of the season for $2.18 a bundle.

BRITISH SOUTH AFRICA.

VALUE OF THE CROP PRODUCTION IN CAPE COLONY LAST YEAR.

From figures of crop returns collected by the Government, South Africa, a London publication, quotes the following summary of the values of Cape Colony production in the year 1907: Crops, $7,213,939; vineyards, $1,313,142; animal products, $41,752,233; other products, $4,866,000; fruit, $378,127, a total of $54,210,299. The value of the live stock in the Colony (figures for 1904, with estimates for natural increases) was $127,804,023.

TEA AND COFFEE CULTURE.

CEYLON.

RISE AND PROGRESS OF AN IMPORTANT TEA-PLANTING ENTERPRISE

Consul E. A. Creevey, of Colombo, reports that the cultivation of tea, which was first seriously undertaken in 1873 because of the destruction by blight of the previously highly remunerative coffee groves, has now become the most extensive and productive of the capitalized industries of Ceylon. The consul's thorough review continues:

In 1873 but one lot of tea, weighing 23 pounds, was exported. In the calendar year 1907 the weight of tea exported was 179,844,827 pounds. The first considerable plantings of tea were made as a despairing effort to recoup fortunes which had vanished with the spread of the coffee blight. Men who had been in affluence had found their source of income suddenly swept away. The amateur tea planters had proved that tea could be cultivated profitably, but quicker and more easily earned profits were sought. These were found in cinchona, but in a few years the production of cinchona was so great as to flood the market and reduce prices below the profit limit. Then tea was given its opportunity.

The first great impulse given the industry was in 1875, when the acreage was increased from 350 to 1,080. Each succeeding year has witnessed extended planting, and at the end of 1907 planters' returns showed a total tea acreage of 385,000. In addition, there are numerous small gardens of tea cultivated by natives of the island who have other interests.

GREATER CROPPING ADVANTAGE—PLANTATION OPERATIONS.

The tea-planting enterprise has been found especially profitable in Ceylon because, while the shrub is deciduous in its native soil and there "flushes" only between May and November of each year, it is perennial in the hot climate of Ceylon, and the only interruption of its yield of leaf is in the pruning periods, once every two years. This interruption lasts not longer than six months. The Ceylon planter therefore in twenty-four months secures the returns of eighteen months' plucking, as compared with twelve months' plucking secured by the Indian, Chinese, or Japanese planter in the same length of time. Tea grows with almost the same productiveness in the lowland and mountainous portions of the central, western, and southern provinces of Ceylon, where the rainfall is abundant.

About 1,200 Europeans are employed as managers and assistants in the operation of the various estates and factories. The plantation labor is performed by about 400,000 Tamil coolies and women, imported from the Malabar coast. Their daily wage rate varies between 25 and 35 rupees (8.33 and 11.66 cents). In addition to their wages the coolies are housed on the several estates and are furnished rice at cost price. Several thousand native Cingalese find employment in the transport of tea to the railways and estate supplies from the railways, but a very few of them work on the estates, as they prefer working their buffalo teams for hire or the cultivation of their own rice fields to day labor.

LABOR DIFFICULTIES—OVERPRODUCTION.

Recently the development of rubber plantations in the Federated Malay States and in portions of southern India has so increased the demand for Tamil coolie labor that Ceylon tea planters have found the labor supply inadequate. The condition has become so acute as to require the appointment of a Government commission charged with the duty of making an inquiry and devising a labor system satisfactory to both coolies and planters, if possible. As the commission has not as yet completed its work, what effect it will have on the price of tea is problematical.

The exporters of Ceylon tea claim superiority for their tea, basing the claim on the fact that the various processes of manufacture to which it is submitted are performed by machinery, and that the manual treatment of the leaf is reduced to the minimum.

In 1900 it was found that rapid extension of tea planting in both Ceylon and India had so increased production as to glut the English market, where the price fell to 7d. (14 cents) per pound, in consequence of which many plantations failed to show a profit on the capital outlay for that year. It had been decided by the Ceylon planters to make an organized effort to establish a secure footing in the other tea markets of the world, shipping their product direct from Ceylon, instead of through London, as had been the custom.

FOREIGN SALES PROPAGANDA.

To this end an exploiting fund was established by voluntary contributions. A few years later the voluntary fund was replaced by a fund raised by the imposition of an export duty amounting to 9.32 cents on each 100 pounds. On January 1, 1907, this tax was reduced to 6.489 cents on each 100 pounds. The proceeds of this tax, which in 1907 amounted to $120,692, are turned over by the customs to a committee of thirty appointed by the governor, twenty-four of whose members are nominated by the Planters' Association of Ceylon and six by the Ceylon Chamber of Commerce. By order of the British Secretary of State for the Colonies the collection of the tax is to be discontinued at the end of the current calendar year.

The committee of thirty has expended the sum intrusted to it in various advertising methods in the United States, Canada, Russia, and Germany. For the United States a commissioner was appointed to exhibit Ceylon tea at fairs, exhibitions, and bazaars, to make demonstrations of its quality and to endeavor to induce the trade generally to give preference to it over tea from other countries. The exploitation work this year is in the hands of a professional advertising writer and distributer, at whose disposal a considerable sum has been placed.

The importance to the colony of the tea industry has never been lost sight of by the Government, an evidence of whose interest in it is found in the following extract from the customs administration report just issued:

The outstanding feature in the tea trade is the excellent progress made in our dealings with Russia, that market taking (in 1907) 19,670,490 pounds, an advance of no less than 6,000,000 pounds on the figures of the previous year. At the same time, as our transshipment warehouses prove, the Russians are buying increasingly in the Calcutta market, and it behooves producers to be

careful to keep their teas up to such a standard as to meet successfully what is undoubtedly very keen competition. Our hold on the Australian market has been fairly retained, but there, too, there is reason to believe, India is striving to find an additional outlet for her teas.

The customs returns show the total value of tea exports in 1907 to have been the equivalent of $24,878,535. This figure is undoubtedly below the actual value of the tea shipped, as while the declared exports to the United States invoiced through this consulate shows tea to the value of $1,078,911, the customs returns show the same exports at a value of $764,744. The difference in the figures may be accounted for by the fact that the exports were invoiced at the consulate at their actual value, while the customs estimated the value at a flat rate of 41.5 rupee cents (13.46 cents) per pound.

DESTINATION OF TOTAL EXPORTS.

The value of tea exported in 1907 was 58.7 per cent of the total of all Ceylon's exports. The increase in tea exported over 1906, by weight, was 9,316,336 pounds; the average value was increased 1.78 cents per pound over the average value estimated in 1906. Russia and the United Kingdom doubled their demand for green tea over that of the preceding year, the increase in their purchases being no less than 2,000,000 pounds. The distribution of tea exports in 1907, as shown by the customs returns, was as follows:

Country.	Pounds.	Value.	Country.	Pounds.	Value.
United Kingdom	111,485,802	$15,422,203	United States	5,528,297	$764,744
Australasia	23,789,666	3,290,904	Germany	578,881	80,080
Russia	19,670,490	2,721,085	France	461,845	63,889
China	7,699,129	1,065,046			
Canada	6,161,602	852,688	Total	179,844,827	24,878,585

The principal exports of tea during the quarter ended March 31, 1908, were:

Country.	Pounds.	Value.	Country.	Pounds.	Value.
United Kingdom	25,881,817	$3,580,318	United States	963,125	$133,232
Australasia	5,214,550	721,319	Germany	58,199	8,051
Russia	5,418,895	749,613	France	151,799	20,999
China	2,016,600	278,963			
Canada	1,763,138	246,667	Total	41,468,123	5,919,507

In explanation of the large quantities of tea shipped to China, the local trade offers the statement that it is used in blending with China teas for further forwarding.

The final destination of much of the tea shipped from Ceylon to the United Kingdom is not known here, as it is often reexported by London dealers. It is estimated that by reason of this fact the quantity of Ceylon tea consumed in the United States is between three and four times as great as the quantity shipped direct.

CUBA.

DECADENCE OF FORMER COFFEE ESTATES IN PINAR DEL RIO PROVINCE.

With a view to the investigation of the coffee-growing industry of Cuba, Consul-General James L. Rodgers, of Habana, recently went from the town of San Cristobal, Pinar del Rio Province, north into

the mountains, which lie about midway between the Western Railways of Habana on the south and the coast line between Bahia Honda and Cabanas on the north. He describes his investigations in the following language:

Knowing that this almost inaccessible mountain region in the old days, when slavery was in vogue in Cuba, was the location of some of the most successful "cafetales," it seemed the best place to investigate the remnant of the industry and to see the former methods of culture and harvest.

These mountains, Cordillera de los Organos, which form the highest part of the backbone of western Cuba, rise to an elevation, in places, of over 2,000 feet above sea level, and constitute, with their abrupt declivities, their deep valleys, and rugged character, an indescribably rough country. It is a region of many small streams, luxuriant forest growth of Cuban hard woods and chaparral, and disintegrated rock formations, while occasionally a highly fertile little valley intervenes, and on some hill shoulders there are small areas, cleared centuries ago, and now adaptable for limited grazing.

REMNANTS OF CULTIVATED GROVES.

The old coffee plantations begin in the very center of this range, being sheltered alike from the winds of the Gulf and the Caribbean. That they are of extreme age is easily seen and that time has been allowed to work its will is noticeable. The coffee trees, which have survived the struggle with the rank tropical growth, are seen everywhere on the steep slopes, and only in patches have there been attempts at rescue from the encroaching vegetation.

The gnarled and twisted coffee trees of these remnants of fine plantations contrast strangely with their fellows which, without topping, have gone upward in the aim for light. Only a small proportion of the original plantings, therefore, exist as coffee-bearing trees, and these do not exhibit much evidence of the care which accompanies intensive production.

In each valley, however, a group of huts, almost primitive in structure, betokens a survival of coffee culture, for around them on the mountain sides and stretching at times to the very top are the "cafetales" of varying sizes. Some have only a few hundred trees and others have thousands, but nearly all are laden with the berries, showing how well nature makes return. The drying beds of sun-burned bricks, of plastered clay, and of modern cement are in the open places, and in the valley, adjacent to the inevitable "tienda" (store), are the hulling devices, which in character and design look as though they might have come down from the time of the original occupation.

A palm-leaf thatch shelters the circle around the perimeter of which is the cement or stone groove in which runs the huge crushing wheel of hard wood. The dried berries are placed in this groove and over them passes the 9-inch rim of the ponderous disk as it responds to the effort of men or beasts. The hulling of both outer husk and delicate skin completed, the bean is dried again on neighboring platforms, and in the fullness of time the bags containing the harvest product go up and over the mountains on burros to a market at San

Cristobal or Bahia Honda. But at best this market is only a local one, and it may be said that this once flourishing industry of that region is now practically dead.

CHEAP LABOR NO LONGER AVAILABLE.

When slave labor existed and when peonage was practiced in Cuba the owner of such "cafetales" as these could remain in the luxury of the time in the coast or vega town, or, better still, in Habana or Madrid, and be certain that his coffee plantation was producing him a handsome income. In those days it cost but a few cents to feed a laborer and he or she could gather many pounds of coffee berries each day.

But now, even in such an out-of-the-way place, where contact with the independent Cuban, who demands and receives a comparatively high wage for his work upon citrus-fruit, tobacco, or sugar plantations, or who is on the Government pay roll, is rare, the laborer on the "cafetales" asks and gets a wage which dissipates the profit in coffee culture in Cuba at least. Either that or the laborer works a cafetal after a peculiar system of his own, under which he gets the lion's share of the crop and does little to increase it.

Therefore the cultivation given to these old Cuban cafetales is scanty to say the least. The pruning is intermittent and poorly done, there is poor general care and no attempt whatever, as far as can be observed, at modern methods. Yet these cafetales are standing evidences of what coffee culture has been in Cuba and might be yet with modern methods. The Cuban—perhaps the most pronounced coffee drinker in the world—buys over 20,000,000 pounds annually, upon which the Government levies an import tax of over 9 cents per pound. And this coffee in great part comes from the West Indian islands and from the Central and South American mainland. These cafetales are as favorably situated as any in Cuba, and it is stated that attempts are to be made to revive the industry. These old coffee plantations seem to have existed over a large stretch of the mountainous country adjacent to the locality mentioned. One does not see the last traces of them until the rough mule track leaves the upland valleys and goes by sinuous course down the waterways, the beds of which in the past and present seem to have been considered the easiest and quickest way of reaching the foothill country which lies back of the coastal plain flanking the north coast.

From the favored spots high up where one can catch a glimpse of the northern slopes there are to be seen the successions of valleys and ridges of extremely fertile land and timber, nearly all untouched. and existing practically as it did before the time of the Spaniards. It is all adapted for coffee culture and many other things, and yet through this great stretch of Cuba and extending many miles to the westward there is not a road until the ruined town of Santiago de las Nunez, an outpost of Spanish civilization, is reached. From there it is only about 10 kilometers (6.2 miles) to Bahia Honda, toward which a modern highway from Cabanas is being pushed along the coast and into which run already several short "carreteras" (cart roads) from the plantations.

PORTO RICO.

COFFEE CULTIVATION AND CONSUMPTION—EXPORTS TO EUROPE.

The following is taken from the annual report for 1907 of the Porto Rico Agricultural Experiment Station:

The exports of coffee from Porto Rico for the fiscal year aggregated $3,496,082. Of this amount the United States purchased only a little over 1 per cent. While practically all of the sugar went to the United States, comparatively little of the coffee was sent there. This is for two reasons: (1) The duty on sugar makes the United States its natural market, and (2) there is no duty on coffee, and the American people do not relish the peculiar flavor of our variety. Porto Rican coffee is a very fine after-dinner coffee much relished in the Latin countries of Europe, and most of our exports of coffee find their market there. Efforts have been made to introduce Porto Rican coffee into the United States, but so far little progress has been made in this direction. It is very hard to change the taste of a people. It were better, if such a market is desired, to produce the coffee which already has an established trade with the States and which brings the highest price in that market. With this in view, the experiment station is carrying on experiments in growing the higher-priced Java coffees, which are highly flavored and command the highest prices in the States. From the few berries which have matured to date, it seems probable that highly flavored coffees can be grown in Porto Rico and retain the aroma peculiar to them in the countries from which they are now shipped. Whether they will continue to do so year after year is a matter for further experiment.

OUTLOOK NOT ENCOURAGING.

Some coffee is being planted in the interior, but the extension of the industry in the island is very small, and the outlook is not encouraging for the future. The enormous production of coffee by Brazil is not very favorable for prices of this product in the world. From statistics it appears that there is a great deal of coffee on hand in the markets; while the Brazilian Government is holding a great deal of it with the hope of maintaining the price, unless the world's production is curtailed the price will be lower.

In some of the old coffee plantations in Porto Rico orange trees are being planted. Others are being cleared out entirely and the land devoted to pineapples and tobacco. As a rule, inaccessible lands in the interior are being planted to coffee, while the old plantations, especially where they are near the macadamized roads, are being planted to more remunerative crops. Better planting and cultivation would doubtless increase the yield of coffee. Fertilization can also be profitably practiced in some instances, especially where large deposits of bat guano are found near by. As the profits from this crop are small, planters are not inclined to expend much in commercial fertilizer. This is especially true where the means of transportation are difficult.

FLAX GROWING IN RUSSIA.

THE ACREAGE IS DECREASING WHILE COTTON IS GROWING IN FAVOR.

The flax industry in Russia, as affected by the growing popularity of cotton, by labor troubles, and the substitution of sunflower for linseed oil, is discussed in the following report by Consul John H. Grout, of Odessa:

From time immemorial flax has been an important product of agriculture in Russia. From north to south and from east to west its cultivation runs over a wider region than that of almost any other plant. Natural selection has qualified the plant to prosper so far north that it barely finds there the necessary time to season its valuable fiber and to ripen its seed, so that it is often frost-bitten. In such a case a reserve stock of seed from the previous year must always be kept, in order to have material for sowing in the spring.

On the other hand, it vies with wheat in the extreme south in the matter of being able to resist the drought and heat.

In the north and center of Russia the plant is cultivated for the sake of its fiber, which is fine and strong enough to form the finest cambric or the strongest rope, though it is not used for the latter purpose, being considered too expensive. Here the seed is a mere incidental product. In the south the plant is grown solely for its seed, and the fiber is not extracted from the stalk. As the plants here, for the sake of the better development of the seed, are sown much wider apart, they are shorter and have more developed branches.

In such a case the woody portions in the stalks greatly predominate over the fiber, and the latter is coarse and uneven in addition to being ramified. This is the reason why experiments in the line of exporting the locally unused stalks for the purpose of extraction of the fiber which is running to waste have not been attended with the results expected. However, the linseed obtained in south Russia in favorable years is supposed to be the best of its kind and meets with much favor in the markets. The last few seasons, however, have not resulted in good harvests of linseed and the home demand for this article has increased, so that exports have greatly fallen off.

DRAWBACKS TO FLAX GROWING.

It may be mentioned that linseed oil, when quite fresh, was formerly used as a food, for which purpose it was prepared on a small scale at the farms where produced. However, it seems to have been supplanted by pumpkin seed and sunflower seed oil, especially the latter, which is in great favor as lenten fare. This is quite natural when we take into consideration the much greater importance of linseed oil for various industrial purposes.

The fiber flax has of late found several successful rivals in exotic fibers. As a result of this, the trade is in a depressed condition, and the cultivation of flax is much less remunerative than was formerly the case. This difficulty is further aggravated by the circumstances attending labor troubles in Russia. It must not, therefore, be a matter of surprise if the 3,000,000 acres under flax cultivation some twenty years ago are now found to have fallen off to 2,800,000 acres.

The extreme rootlets of the plant extend almost as deep into the ground as the plant rises above it. This is particularly so when the flax is in its most congenial soil, a rich loam with a well-drained underground of loose gravel or gray sand. Where these conditions do not exist naturally they must, as far as possible, be created artificially by as deep loosening of the subsoil as possible, and care also must be taken to have the ground as free as possible from weeds.

LABOR WELL REQUITED.

Flax repays the labor bestowed upon it. Most weeds can with care and energy be eliminated from flax fields, but extremely difficult to combat are the parasites and the fungoid growths which push their mycelia into the flax plant itself and either kill or cripple it. As stated above, flax is sown thinly (about one-half bushel per acre) in the south and east parts of Russia, where it is grown for the seed, or, if both seed and fiber is desired, as in central Russia, about one bushel to the acre is sown. If fiber alone is required, as in parts of west and north Russia, from one and one-half to double that quantity is used per acre. In south Russia a satisfactory return is considered

to be about ten bushels to the acre of linseed, and the other parts about six bushels of seed and 400 to 500 pounds of fiber.

It has frequently been pointed out that there would be room for considerable increase of flax cultivation if the whole of the fiber, or even the best class of it, were to be used up in Russia itself and not exported. This wish, however, seems to have but little chance of being realized, as there is a growing demand here for textiles produced from cotton. Another circumstance also militates against extensive flax growing here—the fact that it is justly credited with depleting the ground, so that where flax frequently reoccurs in the rotation of crops, it soon becomes necessary to take vigorous measures and to use strong fertilizers to restore the exhausted soil. The fetid waters where flax has been retted have done much to drive valuable members of the piscine family from streams into which such retting waters were allowed to flow. It has now been found that these obnoxious waters act as a valuable fertilizer where they are allowed to flow over fields or meadows, provided the ground allows them to percolate.

FRUIT GROWING.

FRANCE.

ARTIFICIAL CLOUDS FOR THE PROTECTION OF VINEYARDS FROM FROST.

In reply to an inquiry from an American grape and fruit grower who had lost during the present year very heavily in young fruit trees and grapevines from frost, Consul D. I. Murphy, of Bordeaux, furnishes the following information concerning a French process of producing artificial clouds for the protection of vineyards:

The process, the invention of Mr. Edouard Lestout, of Bordeaux, consists in filling small wooden boxes, open at top, with an inflammable composition consising of a mixture of equal parts of resinous with earthy matters (clay, terra alba, and the like) reduced to a fine powder, and pressed into a compact mass. In the center a wick extends through the compound and serves to kindle it. The wick, however, may be dispensed with and the composition ignited by pouring a few drops of alcohol, petroleum, or other inflammable oil over the mass and applying a match. These boxes, about 8 inches long by 6 wide, made of pine wood ordinarily, are placed in line, about 30 feet apart, around certain areas, say of 50 acres.

USE AT VITAL PERIOD.

So far as grapevines are concerned, the most dangerous period of the year is in April, when the young shoots are showing some vigor and the juices running freely. Then a slight frost may mean disaster unless the plants are protected in some way. There is but little danger when a dark or cloudy morning follows a cold night. The trouble comes when the first rays of the morning sun strike the almost frozen and unprotected plant. Rapid disorganization is sure to follow, cases being known here where entire vineyards have been so destroyed. By the Lestout process a dense cloud of smoke is produced, hanging over the vineyard long enough to protect the plants from the sun's rays and give them a chance to recuperate from the dangerous effects of the frost.

The composition in the boxes to windward only is ignited, the thick, black, heavy smoke hanging over the field forming a shield

against the sun's rays. If it is desired to extinguish the fires it is only necessary to have an open box a trifle larger than the others, by means of which the flames are quickly smothered. It is claimed that the protection of 50 acres by this method of producing smudges can be achieved at an expenditure of $2.

The inventor declares also that his process may be used for masking the movements of an army, hiding the erection of field works, etc.; also as a rain producer, and even for driving off grasshoppers and locusts.

The process has shown to have merit in the protection of vineyards, and it, or something similar, might be used with advantage by American fruit vine growers and horticulturists.

SPAIN.

GOOD YIELD OF RAISINS REPORTED—STOCKS, FREIGHTS, AND PRICES.

Consul Charles S. Winans advises that the prospects for the coming Spanish raisin crop in the Valencia district point to fine quality and a total yield of 30,000 tons, which is some 4,000 tons above the average of recent years. The consul's details, bearing date of July 6, follow:

Stocks in the hands of farmers and speculators in this country are now totally cleared, while latest advices from London, where the most important stocks of old raisins are always held, report 6,700 hundredweights Denias and 180 hundredweights Malagas on hand, against 3,380 of the former and 100 of the latter at same period last year.

Freights, as far as can be ascertained at present, are likely to rule at usual rates of 25 shillings a ton for principal United States Atlantic ports, both by direct steamers and via Liverpool in transshipment.

The price obtained by growers last season for raisins in bulk delivered in packing stores of speculators and export merchants averaged about $2.55 per hundredweight of 112 pounds. [The exports of raisins from Valencia were $1,500,000 in 1906, of which $50,668 worth were declared shipments to the United States; the latter increased in 1907 to $205,152, according to the consul's annual report.—B. of M.]

CUBA.

CROP OF ORANGES EXPECTED TO BE THE LARGEST EVER PRODUCED.

Consul Max J. Baehr, of Cienfuegos, reports that 500,000 crates is a conservative estimate of this year's Cuban orange crop, which will be the largest in the history of the island. Until a few years ago thousands of crates of oranges were brought to Cuba from Florida and California every year, but for the last three seasons these shipments have become less, and will possibly cease entirely within another year. Orange cultivation on a scientific scale did not begin in Cuba until about eight or nine years ago, and may be considered in its infancy, but is progressing rapidly, and even at this early stage is now in position to supply the local markets. The orange business on the island is controlled almost entirely by Americans.

RUSSIAN COTTON CROP.

REPORT ON THE CONDITION IN THE VARIOUS GROWING DISTRICTS.

Vice-Consul William Dawson, jr., has made the following translation from the St. Petersburger Zeitung of July 2 in regard to the current Russian cotton crop:

Considering the cotton-growing industry in Russia, a change for the worse is to be noted. The unfavorable result of last year's business season made it impossible for firms who had made advances to recover the same before work in the fields was commenced. This had its influence on the amount available for loans and the population remained without money. On the other hand, the lack of means had a notable influence upon the extent of the cotton area, and especially in those regions in which the culture of the cotton shrub has reached the highest point of development. Thus, for example, in Ferghana the cotton area is smaller by 20 per cent, the falling off varying with the several districts from 30 per cent in that of Andishan to only 4 or 5 per cent in the Margelan district. In the other regions the cotton area is also less considerable. In this respect the present season is the exact opposite of the last.

Following data relative to the condition of the cotton area, for the middle of June, were received by the Torgoro-Promyshlyennaya Gazeta (Journal of Commerce and Industry) from its regular correspondents.

FERGHANA REGION.

Andishan district: This year's cotton area is about one-third smaller than was that of last year. About 108,000 acres are planted. The causes of this shrinkage are to be found in unfavorable weather conditions and the lack of money for working. Labor is to be found in sufficient quantity. Wages are from 10 to 20 cents lower per day than last year.

Kokand district: The area under cultivation is 25 per cent smaller, as a result of unfavorable weather conditions. There is no lack of hands.

Margelan district: As compared with that of last year, the cotton area is about 5 per cent smaller, partly because night frosts were feared. The condition of the plants is for the most part good. Plenty of labor is to be found. Wages are about 50 cents a day—that is, from 5 to 10 cents higher than last year.

Namangan district: As a result of the lack of advances, the area under cultivation in this district is smaller by 13,300 acres than that of last year. This year 89,000 acres have been planted with American cotton and 2,625 with native, against 102,105 American and 2,820 native last year. There is no lack of labor. In certain parts wages run from 30 to 70 cents per day and in others from 30 to 50, which is less than last year.

Kursk district: As compared with last year, 2,340 acres less are at present under cultivation; 12,790 acres are being cultivated with American and 700 with native cotton (last year, 15,240 acres American and 590 acres native). In the first part of June the condition of the plantations was very good. Workers are to be had in plenty. Wages amount to 40 cents a day. Advances made were about 70 per cent less than last year.

SAMARKAND REGION.

Katla-Kurgan district: The cotton area has increased by approximately 20 per cent, following the favorable weather conditions. Labor is present in sufficient quantity, wages running from 45 to 50 cents a day.

Samarkand district: The area under cultivation has decreased by 25 per cent. Plowing was delayed by rains. A lack of seed was also to be noted. Furthermore there is an insufficiency of labor. Wages are 60 cents per day and in some places are higher by 23 cents than last year.

Omsk district: The cotton shrub is cultivated in only a part of this district and the area under cotton is less this year, principally because last year's crop did not ripen on account of early frost; 8,285 acres have been planted this year against 12,350 last year, and that exclusively with American cotton. Plenty of labor is procurable. The daily wage is from 30 to 45 cents. Advances of money were less plentiful than last year.

SIR-DARIA REGION.

Tashkend district: Following the poor results of last season, the cotton area has decreased by about one-half. Plenty of laborers are on hand. Wages are lower than last year. Fewer advances were distributed.

Khojend district: The area under cotton is about 25 per cent less than last year, 11,070 acres being planted with American and 405 acres with native cotton. The causes lie in last year's crop, planters' losses, and the lack of credit. Wages run from 30 to 40 cents.

TRANSCASPIAN REGION.

Askabad district: The cotton area has rather increased than decreased. Actually 3,950 acres are under cultivation. During the plowing season there was a shortage of hands. The daily wage is 30 cents.

GOVERNMENT OF ERIVAN.

Sharur district: Two-thirds of the area under cultivation are laid out with American cotton. Few laborers are to be found. Wages run from 25 to 35 cents, as last year.

KHANATE OF BOKHARA.

The cotton area is, as compared with that of last year, greater by from 50 to 75 per cent, chiefly on account of favorable weather conditions. Especially noteworthy is the increase of the area under American shrubs. No lack of labor is reported. The daily wage is 38 cents, 8 cents more than that of last year. A crop of 18,000,000 pounds of American and 50,000,000 pounds of native cotton is predicted (last season's crop in American cotton was 7,200,000 pounds).

WORLD'S HOP YIELD.

HEAVY INCREASE IN PRODUCTION LAST YEAR IN EUROPE.

The following summary of hop production for 1907 is taken by Consul H. W. Harris from the annual report of the Nuremberg Chamber of Commerce:

The report states that the harvest in Germany was one of the best as to amount and quality during the past twenty years. The following figures are given as showing approximately the hop harvest of the principal hop-growing states and countries for the year 1907. The amounts are given in metric tons of 2,204.6 pounds.

	1907.	1906.		1907.	1906.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Bavaria	13,550	12,500	Russia	3,500	3,000
Wurttemberg	3,100	2,750	Belgium and Holland	2,500	2,500
Baden	1,600	1,500	France	4,000	2,750
Alsace	4,500	3,750	England	19,000	14,000
Prussia	900	1,250	United States	31,000	34,500
			Australia	750	750
All Germany	23,650	21,750			
Austria	15,600	8,850	World's harvest	100,000	88,100

GERMANY'S FOREIGN TRADE—NUREMBERG MARKET.

For the five months from September 1, 1907, to January, 1908, Germany's imports of foreign hops is stated at 2,789 metric tons, as against 1,169 metric tons for the corresponding five months of 1906–7. Her exports of hops for the five months ending January 31, 1908, were 7,580 tons, as against 7,682 tons for the five months ending January 31, 1907. The report referred to states that at least one-half the German crop was exported, netting an income of about 22,000,000 marks ($5,250,000), while the total imports amounted to somewhat less than $1,000,000 worth.

Among Germany's foreign customers for hops in 1907 England ranked first and the United States second. Among other countries

buying German hops in considerable quantities were the Netherlands, Switzerland, Sweden, Russia, Austria-Hungary, and Denmark.

The trade in hops in the Nuremberg market for six months ended with February, 1908, amounted to 71,500 tons. The following average prices per centner of 110 pounds for hops of various grades at the Nuremberg market are given for the six months beginning September 1, 1907, and ending February 29, 1908: Markthopfen, $5.95 to $13.80; Gebirgshopfen, $10.71 to $16.18; Aischgründer, $10.71 to $16.18; Hallertauer, without seal, $11.42 to $18.56, with seal, $14.99 to $21.42; Spalterland, $16.66 to $21.42.

BRITISH HONEY PRODUCTION.

ACTIVE CORNWALL INDUSTRY AFFORDS OPENING FOR APIARY SUPPLIES.

Reporting from Plymouth, Consul Joseph G. Stephens says that during the past three years a great advance has been made in honey production concerning which he writes:

The best honey-producing county in England, Cornwall, was the first to engage the service of an expert in bee keeping. The result of this supervision and experiment has worked a vast commercial benefit to the Duchy. Three years ago "foul brood," an infectious disease among bees, attacked the apiaries of Cornwall and worked great destruction. Had it not been for the forced destruction of hundreds of hives there would have been an end to the industry. There now remain but a few traces of the disease.

With the view of making bee keeping a wide and thriving industry, the authorities have instructed their expert inspector to visit all bee keepers in the county, examine the hives kept by them, and to give advice as to their condition and management. It is also the duty of the inspector to work up markets for the product in all parts of the country. Experiments are being carried on at the experimental apiary at St. Erth in connection with the perfecting of fruit and seeds for honey and the production and breeding of queen bees.

GROWING IMPORTANCE OF BEE KEEPING.

This year so far has been a record one for the production of honey and no part of England possesses better advantages in this respect than Cornwall, owing to the extensive tracts of heath and clover flowers. There is a very marked increase in the number of people engaged in this business and scores of people are making as much as $500 a year from their bees.

Now that the public are so interested in bee keeping is a favorable time for American merchants to introduce into this district the modern bee hives and bee-keeping appliances. Thousands of old-fashioned straw skips must be replaced by wooden hives. There is also room for many other improvements in the methods now being employed. The people are being educated along these lines by able officials interested in the industry and would be disposed to purchase the best appliances obtainable. American manufacturers interested should communicate with a dealer whose name is forwarded [and obtainable from the Bureau of Manufactures].

IRISH LIVE-STOCK EXPORTS.

FALLING OFF IN SHEEP—INCREASE IN CATTLE AND SWINE.

Consul Henry S. Culver, of Cork, transmits the following extracts from the annual report of the department of agriculture relative to the exports of live stock from Ireland:

The gross total of the exports from Ireland last year of cattle, sheep, swine, goats, horses, mules, and asses was 2,025,292. This amount falls short of the annual average, 2,198,953, for the decade ended in 1907. So far as the export of cattle is concerned, the total for 1907 may be considered a satisfactory one, the figure reached 843,010, having been exceeded only twice in the decade.

In the sheep exports, however, there has been a decline in recent years. In 1902 the total number of sheep shipped from Ireland reached 1,057,943, while in 1907, 666,363 sheep were exported. A decrease, however, of practically the same amount took place in the stock of sheep kept in Ireland, the figures being, in 1902, 4,215,865, and in 1907, 3,816,600, and it is reasonable to assume that this diminution accounts for the reduction in shipments. The swine exports for 1907 are over 50,000 head in excess of those for 1906.

The recovery in the Irish live-stock trade, which was noticeable during the year 1906, has been well maintained. The prices obtainable for cattle showed an upward tendency toward the end of the year, and on the whole, well-finished beasts realized sums which afforded feeders an encouraging margin of profit. There was a brisk demand at fairs and markets for young, well-fed cattle. The price of sheep ruled high in Irish markets during the early months of the year. Later the value of sheep dropped. This, in some measure, may be accounted for by the fall in the price of wool. In order to meet the requirements of victualers in Ireland the importation of sheep from Scotland was very considerable. As compared with the year 1906, and taking the Irish railways as a whole, there was an increase in the number of animals carried over the lines during the period under review. This was particularly noticeable in respect to cattle and swine.

TOBACCO.

CULTURE AND MARKETS.

ITALY.

PRODUCTION, CONSUMPTION, AND MANUFACTURE OF TOBACCO.

The following comprehensive report concerning the tobacco trade of Italy has been prepared by Vice-Consul Bayard Cutting, jr., of Milan:

In Italy tobacco has been a State monopoly since 1883. Before that date the monopoly was farmed out to a private company, which paid the State a fixed return and also a percentage of the profits. The system was moderately successful.

The period of direct Government management has been notably successful from a financial standpoint. The gross receipts, which were $36,300,000 in 1897–98, had risen in 1900–1901 to $38,900,000; in 1903–4 to $41,500,000, and in 1906–7 to $46,100,000. Net receipts have increased even faster. In 1898–99 the ratio of expenses to gross receipts had already fallen to 24.89 per cent, and in 1906–7 it was only 22.67 per cent. A gross revenue 38 per cent greater than that of 1884 is collected at an additional cost of 7.4 per cent. The net receipts, from $21,400,000 in the last year of the old system, have risen in 1906–7 to $35,700,000.

It is known that the year 1907–8 has been more successful than any of its predecessors. But the figures for that year have not been published; indeed the report for 1906–7 did not appear until the end of July, 1908.

LOW PER CAPITA CONSUMPTION—IMPORTS OF LEAF TOBACCO.

In spite of these encouraging figures, the per capita consumption of tobacco remains lower in Italy than in any country of Europe. It has risen steadily since 1897–98, but in 1906–7 it is still only 1.1 pound, worth $1.33. Nearly half of this amount, and more than half of the value, goes to cigars; cigarettes and cut tobacco account, each of them, for nearly a fifth of the cost; and snuff, which ten years ago absorbed one-eleventh of the money spent on tobacco, now takes less than one-sixteenth.

Almost all the tobacco consumed in Italy is of home manufacture. But only about one-fourth is of home growth. The rest is purchased through Government agents, either directly from the producers, as in the United States, or in the tobacco markets, as in Holland, Germany, Turkey, etc.

The following statement shows the imports of leaf tobacco into Italy for the last seven fiscal years:

Years.	Quantity.			Value.		
	American.	All other.	Total.	American.	All other.	Total.
	Pounds.	*Pounds.*	*Pounds.*			
1901-2	25,549,000	2,295,000	27,844,000	$2,775,000	$488,000	$3,265,000
1902-3	36,389,000	3,645,000	40,034,000	3,740,000	505,000	4,245,000
1903-4	32,422,000	2,335,000	34,757,900	3,236,000	401,000	3,637,000
1904-5	27,338,000	3,598,000	30,936,000	2,587,000	552,000	3,139,000
1905-6	32,591,000	5,454,000	38,045,000	3,323,000	784,000	4,107,000
1906-7	34,149,000	6,602,000	40,161,000	3,759,000	1,001,000	4,760,000
1907-8 (11 months)	34,625,000	8,281,000	42,906,000	.....	.....	4,727,000

In the foregoing statement the term "American tobacco" includes the imports from Habana, San Domingo, Paraguay, Brazil, etc. Until the last two or three years the quantity of these tobaccos imported was small. In fact, during the last eight years the "Kentucky" and "Virginia" (excluding Bright) importations have always been above 95.8 per cent in weight and above 94.5 per cent in value of the total importations of "American leaf." But for 1905–6 and 1906–7 the foregoing totals are somewhat misleading, since they apparently give to the United States an increase of which at least a part goes to countries whose tobacco is being introduced in substitution for American tobacco. The following table gives the exact figures of the importations of various kinds of tobacco from the several countries:

IMPORTS OF LEAF TOBACCO BY COUNTRIES.

The following statement shows the imports of leaf tobacco into in Italy for fiscal years ended with 1906–7:

Countries.	1904-5.		1906-7.		Price per 100 pounds.	
	Quantity.	Value.	Quantity.	Value.	1904-5.	1906-7.
EUROPE.	*Pounds.*		*Pounds.*			
Macedonia	2,047,000	$437,200	3,174,000	$678,900	$21.37	$21.07
Hungary	60,000	5,200	1,000	100	8.68	10.00
Germany (Palatinate)	.....	.....	1,149,000	97,100	.....	8.43
All other	787,000	23,200	.....	.....	2.96	.....
Total Europe	2,894,000	465,600	4,324,000	776,100	16.10	17.89
ASIA.						
China	164,000	14,200	222,000	22,200	8.61	10.02
Java:						
For cigars	50,000	8,900	80,000	17,100	17.96	21.27
For cut	5,000	300	1,093,000	50,700	5.76	4.63
Asia Minor (Samsun)	467,000	57,900	186,000	29,800	12.42	16.04
Philippines	.....	.....	1,000	100	.....	10.00
Sumatra	18,000	4,800	3,000	3,400	26.17	105.00
Total Asia	704,000	86,100	1,585,000	123,300	12.23	7.78
AMERICA.						
Brazil:						
For cigars	37,000	5,600	124,000	22,300	14.94	18.04
For cut	66,000	5,600	129,000	14,000	8.53	10.84
Cuba	55,000	21,700	72,000	37,500	39.17	57.68
Santo Domingo	76,000	7,200	58,000	6,400	9.50	11.08
Paraguay, etc	2,000	100	308,000	20,900	5.00	6.78
Total outside the United States	236,000	40,200	691,000	101,100	17.03	14.34
United States:						
Kentucky	22,226,000	2,013,000	28,804,000	3,139,300	9.08	10.92
Virginia:						
Superior	3,170,000	354,400	3,580,000	489,300	11.22	13.59
Inferior and lugs	992,000	79,400	941,000	96,000	7.99	10.26
Bright	636,000	91,300	195,000	30,600	14.36	15.75
Maryland	78,000	9,300	39,000	4,300	12.24	11.05
Total United States	27,102,000	2,547,400	33,559,000	3,759,500	9.40	11.29
Grand total	30,936,000	3,139,300	40,161,000	4,760,000	10.18	11.88

TOBACCO CULTIVATION.

The following statement shows the progress of tobacco cultivation in Italy for the fiscal years ended with 1906–7:

Year.	Acres planted.	Number of plants, first count.	Product.	Product per acre.
			Pounds.	*Pounds.*
1883	10,831	67,073	11,279,000	1,041
1893-94	10,553	65,995	12,854,000	1,207
1898-99	12,229	80,569	11,729,000	962
1901-2	12,323	76,874	12,122,000	984
1902-3	12,029	76,597	10,444,000	869
1903-4	12,169	79,164	11,677,000	960
1904-5	11,807	79,636	12,886,000	1,091
1905-6	12,570	103,951	14,980,000	1,192
1906-7	12,444	102,067	14,494,000	1,165

The foregoing statement would seem to indicate a practically stable and stationary condition of the tobacco monopoly in Italy. Consumption is increasing, but not very much faster than population; the home production is unaltered from year to year, and barely maintains its fixed relation to imports of foreign leaf, as will be seen by the following statement showing the comparative consumption of Italian and foreign leaf in Italy during the last six fiscal years:

Year.	Native.	Foreign.	Total.	Percentage.	
				Native.	Foreign.
1901-2	11,932,000	32,195,000	44,127,000	27.04	72.96
1902-3	11,148,000	32,189,000	43,337,000	25.72	74.28
1903-4	11,227,000	33,187,000	44,414,000	25.28	74.72
1904-5	10,830,000	35,148,000	45,978,000	23.55	76.46
1905-6	12,247,000	35,047,000	47,294,000	25.90	74.10
1906-7	12,861,000	34,924,000	47,785,000	26.91	73.09

For statistical purposes the tobacco grown in Italy may be divided into five classes: (1) The indigenous plants. Most of these are of low quality, suitable for cut tobacco or snuff; they include, however, some varieties adapted to cigars, such as the Brasile Beneventano. (2) Tipo oscuro plants—i. e., large dark-leaved plants of the American type; burley and Kentucky form the vast bulk of this crop, with a little Brazil, Sumatra, etc. It is used for cigars. (3) Light-leaved "exotic" plants, of the oriental type, used for cigarettes. (4) "Bright" Virginia plants, also used for cigarettes. (5) Special varieties, suitable only for the higher quality snuffs.

SEEKING INDEPENDENCE OF FOREIGN TOBACCO.

It has long been felt that Italy should be freed from its dependence on the foreign and especially American, tobacco. Kentucky tobacco dominates the Italian tobacco situation. It supplies three-fifths of the entire raw material, and is indispensable for the manufacture of the most popular brands of cigars. Until 1904–5 the prices of Kentucky remained low, and even fell from year to year. But since that time they have been rising by giant strides. A widespread alarm has been awakened in Italy, and the Government has pressed more energetically the measures which they had already prepared in earlier years.

To make Italy more or less independent of the American supply may be said to be the main object of Italian policy at present. The

measures which can be taken to this end are of three kinds: (1) As producer, or regulator of production, the Government can encourage the cultivation of tobaccos of the American type; (2) as purchaser it can import tobaccos capable of substitution for the American; (3) as manufacturer it can alter the proportion of home and foreign tobaccos in the various cigars, cigarettes, etc., and gradually wean the public taste from all-American brands.

The Government is doing its best to educate the farmer and to remove part of the risk and expense from his shoulders. The inspectors appointed to count the plants and leaves for purposes of taxation are also charged with the supervision of the process of cultivation. They instruct the peasant when, where, and how to plant, and at what intervals, with how much manure. They watch his crop develop, tell him how to pick and when, give him directions for storing and drying. Their advice is followed. It must be, for they represent the only purchaser of the product. Education is supplemented by financial assistance. The Government has devised a system of contract, which runs for five years and which has become popular in a number of districts. The State rents the land at a fixed rate from the owner and on it puts up the necessary buildings (storehouses, etc.). The State also buys all the manure. The peasant contracts to grow tobacco for five years on a certain (increasing) number of acres. He pays all expenses of cultivation, except manure, and does all the work, under the direction of the State inspector. At the end he and the State make an equal division of the crop, each retaining half. This solution is worthy of attention, because it interests the State directly in the quality of the product.

TOBACCO MANUFACTURE IN ITALY.

The leaf is sent at first to eight large government storehouses, whence it is distributed to the factories, according to the directions of the central administration, upon request from the directors of the factories. At the beginning of a campaign each factory receives instructions as to the exact amount of tobacco of each grade which it is to produce during the coming season, and of exactly the proportions of each kind of leaf which it is expected to require. The Italian manufacturers pride themselves on the fixity and evenness of their grades; they are as unwilling to produce a number of cigars greatly above the average of their type as greatly below, and one factory is supposed to produce the same grades as another. Thus a competent director keeps closely to the estimates and feels no need of explaining any request for a larger quantity of any kind of tobacco than was originally assigned.

There are 17 factories in Italy. They are provided with modern machinery for drying the tobacco, for cutting it, for weighing and making up packages, etc. The manufacture of secondary products, also, requires machinery. Most of the labor, however, is performed by hand. The operatives, of whom over 90 per cent are women, are paid on a piece system, never by the day. A good woman laborer makes from 48 cents to 58 cents a day; a good man at least 20 cents more. The hours of labor are eight per diem.

Each factory has extensive warehouses where the finished product is stored. In the case of cigars, it is at least eight months and usually a year and a half from the time of manufacture before the product is

consigned to the retailer. There are also large rooms for drying the cigars on trays by means of hot-air circulation.

The largest factories, in their order, are Milan, Venice, Lucca, Bologna, Naples, Modena, and Turin. Chiaravalle, Naples, and Rome are of medium size; the others are much smaller. Milan has a capacity nearly equal to that of the remaining six which are themselves each about equal to the three factories of medium size. The bulk of the tobacco manufacture, and the part requiring the highest industrial organization is performed not in the vicinity of the fields of cultivation, but in the large cities of northern Italy.

OUTLOOK FOR THE INDUSTRY.

Italy is still dependent upon the American crop. The public demands the comuni cigars, for the manufacture of which no satisfactory and adequate substitute for Kentucky leaf has been found in any foreign country.

Home production is not yet sufficiently advanced to permit the Government to stop buying American tobacco. The Virginia tobacco is not produced in Italy at all, and the supply of indigenous Kentucky does not yet include an adequate proportion of good wrapper leaves. A sudden rise in American prices would find Italy still unprepared, but not entirely helpless. The decline in the demand for snuff and cut tobacco has already operated to stimulate the production of a leaf suitable for cigars and cigarettes; government encouragement and supervision have improved the quality of the tobacco produced and extended the acreage; skillful blending of native tobaccos with foreign has prepared the public for a still greater consumption of the indigenous product, and an active propaganda has interested the public, and especially the wealthy public, in tobacco as a crop and has led to numerous experimental cultivations in every province of Italy. It is to be regretted that statistics of the results of these experiments are not yet forthcoming. It is impossible to say in what localities and to what extent they have been successful. What is certain is that they have prepared the way for a large extension of the tobacco area at short notice by trained laborers should economic conditions make such extension desirable. There is much capital ready to be invested in tobaccos at the call of the Government and not a little experience.

If Italy could turn as much as 80 per cent of its tobacco to the manufacture of cigars, the amount would still be insufficient to make one-half of the cheaper cigars (those selling at 18.55 lire a kilogram—$3.58 per 2.2 pounds—or less). The Palatinate importations could indeed be augmented to supply the leaf for a part of the remainder, but they could not be increased ten or twelve fold. Nor could Italy at once produce 12,000,000 pounds of cigar tobacco.

CONTINUANCE OF PURCHASES OF AMERICAN LEAF.

As long as the American product, while remaining superior to the Italian, is obtainable at prices low enough to discourage the Italian planter, so long is it sure to hold its own in spite of all the efforts of the Government and of private enterprise.

But a sudden and violent rise in American prices, coming after the excitement and apprehension caused in Italy by the recent troubles in Kentucky (feelings fostered by the efforts of the press),

might act like a chemical spark, and produce a reaction which a little caution would avoid. It is obvious that if Kentucky tobacco is once grown successfully on a large scale all over Italy, its cultivation will continue, even though the high American prices which originally induced it should no longer exist.

"Can Italy produce its own tobacco? What would happen if it could not get tobacco from America?" was asked recently of a man whose training and position fit him to form an accurate judgment.

"Italy would do without American tobacco," he replied. "Already we have grades as good as the American; all that we need in order to make us independent of foreign sources of supply is a push from the outside. Whenever scarcity abroad makes us awake to our danger and our possibilities Italy will produce its own tobacco."

Without fully indorsing this view, which is hardly justified by the present state of tobacco cultivation in Italy, the writer is of opinion that it would be a mistaken policy at present to place obstacles in the way of the Italian purchaser of our tobacco. He should rather be reassured and made to feel that he can count on our crop, not this year or next, but as a source of supply. A sudden rise of prices would probably be successful for the moment; but it would be fraught with danger to the permanent interests of the American tobacco trade with Italy.

GERMANY.

BREMEN A GREAT TOBACCO IMPORTING AND EXPORT PORT.

Consul William T. Fee furnishes the following information concerning the trade in tobacco conducted through the German port of Bremen:

The two chief importing and distributing places for tobacco in Germany are Bremen and Hamburg. Over the quays of these two ports, besides the supply needed for Germany, pass large quantities of tobacco, either as "declared transit goods" or as German imports, which are later on sold and forwarded to the monopolies and factories in countries foreign to Germany.

The declarations of weights and values of imports and exports from which the statistics are prepared are compulsory, and thus the weights given are absolutely correct, excepting natural loss or gain of weight during storage and transportation. The declarations of values of imports and exports have different bases, the importer or first owner declaring his purchase price, while the exporter, who often is the second or third owner, has to name his selling price in making his customs declaration, thus including profit or loss, according to the fluctuations of the market, interests, and other costs. Hence the statistics of the values declared at the German customs house are of no interest in making comparisons between imports and exports and are therefore not quoted in this report.

Java and Sumatra tobaccos are always imported from Dutch ports (Amsterdam and Rotterdam) and not directly from the country of production. Large quantities of the two kinds are bought and sold at those ports by Bremen merchants, and these quantities, of course, are not included in the following statistics (a metric ton being 2,204.6 pounds).

IMPORTS AND REEXPORTS.

The following statement shows the imports of tobacco into Bremen from the several countries in 1905, 1906, and 1907:

Whence imported.	1905.	1906.	1907.	Whence imported.	1905.	1906.	1907.
	Metric tons.	*Metric tons.*	*Metric tons.*		*Metric tons.*	*Metric tons.*	*Metric tons.*
United States:							
Kentucky	8,580	9,807	10,484	China	171	168	364
Maryland	765	371	461	Cuba	1,899	930	852
Ohio	169	124	92	Santo Domingo	4,106	6,098	5,719
Seedleaf	1,110	493	808	Porto Rico	38	33	818
Stems	2,167	4,004	1,453	Brazil	14,892	15,492	19,146
Virginia	2,538	1,937	2,310	Paraguay	1,535	733	727
				Mexico	769	380	485
Total	15,329	16,736	15,608	Colombia	1,985	2,660	6,088
Dutch India:				Turkey	655	1,077	1,169
Java	5,804	8,417	10,278				
Sumatra	2,819	2,949	3,144	Total	50,138	55,923	65,176
British India, Borneo, Manila, etc	136	250	778				

The reexports to the several foreign countries are only given for 1907, and were as follows: American, 8,204 metric tons, of which Kentucky figures for 6,022 tons; stems, 1,073 tons; Virginia, 485 tons; seedleaf, 302 tons; Maryland, 280 tons; and Ohio, 42 tons. The reexports of Kentucky were to the following countries: Switzerland, 2,397 tons; Sweden, 1,364 tons; Denmark, 1,158 tons; Norway, 220 tons; West Africa, 297 tons; Argentina, 134 tons, etc. American stems went chiefly to European Russia and Sweden. The reexports to foreign countries of tobacco, other than that from the United States, was as follows in 1907, in metric tons: Javan and Sumatran, 1,442; British Indian, etc., 40; Chinese, 44; Cuban, 323; Santo Dominican, 1,651; Porto Rican, 56; Brazilian, 8,686; Paraguayan, 472; Mexican, 167; Colombian, 544; Turkish, 567; making a total reexport to foreign countries of 22,196 metric tons, leaving 44,980 metric tons for storage in Bremen and for consumption in Germany, in 1907.

MISCELLANEOUS.

At Bremen as well as at Hamburg there are what are called "free harbors," with large commodious warehouses, where any import from over the sea may be landed and stored for any length of time at low charges. Government duty is not payable until goods are withdrawn for consumption or to be transported into the country, and in case of reexportation no duty at all is levied.

In respect to American tobaccos, and more especially in regard to such goods as are suitable for cigar manufacturing, it is claimed that prices paid by American manufacturers and dealers for the higher grades of the home-grown product are so far above the limit that German manufacturers could not invest and that, in fact, the largest part of seedleaf tobacco was sold in the United States under contract long before it was harvested. Whatever reached this market during the past year was readily sold at high prices. Consequently the consumption of Brazilian, Javan, and Santo Dominican, for fillers and binders, and Sumatran tobacco, for wrappers, is steadily increasing.

The imports of tobacco at Bremen in 1907 were the largest from Brazil, followed by those from Kentucky, with Java third. It is a high compliment to the Bremen merchant that he can import to-

bacco from Brazil and reexport it at a profit, as he did last year, back across the Atlantic to Argentina and Uruguay—777 and 134 tons, respectively.

CIGARETTE IMPORTS.

INCREASING RECEIPT OF FOREIGN GOODS DISTURBS MANUFACTURERS.

Vice-Consul James L. A. Burrell, of Magdeburg, reports that at the last general convention of representatives of the German cigarette industry the increasing importations of foreign cigarettes were considered, in particular the danger of the continually increasing imports of Austrian Regie cigarettes for the German industry. He explains the situation thus:

On July 1, 1906, the duty on cigarettes was raised from 270 marks ($64.26) to 700 marks ($166.60), which increase, high though it was, lessened the importation of foreign cigarettes for a short time only. At present more than 60 per cent of the imports are from Austria-Hungary, while ten years ago hardly any cigarettes were imported from those countries. These cigarettes are not, as might be supposed, of the highest quality, but are principally of medium grade. Against this importation the increase in duty has had no effect whatever. The importations from England, which consist almost exclusively of the expensive varieties, have been steadily increasing for some years and have recently reached the volume of the importations from Russia. The market for cigarettes of German manufacture is, naturally, being restricted by the increasing imports and the German manufacturers are advocating a still higher duty on foreign cigarettes.

UNITED KINGDOM.

LARGER SALES OF AMERICAN LEAF POSSIBLE IF FURNISHED CLEAN.

Consul J. Perry Worden, of Bristol, makes the following report on the possibilities of increasing the exportation of American tobacco, especially to Great Britain, by further cleansing the raw product of sand:

Favorable as are the conditions for the maintenance of the export tobacco trade of the United States, at least for the near future, there is no doubt that American tobacco exporters would be able to increase their sales abroad very materially if they would give more attention to the cleansing of the raw tobacco before it is packed and shipped. An astonishing amount of dirt, especially sand, gets into the plant, and, on account of the peculiar formation of the leaf, is to a great extent never dislodged by natural means or ordinary handling.

This sand is packed with the tobacco and adds to its weight; the bulk tobacco is rated by foreign customs on the same basis, and the sand must be paid for, though it can not, of course, be used. Some sand is later shaken out, and a "drawback," or allowance, given by the customs authorities, but so much good money must be paid for worthless grit and dirt that the loss to single companies in a single year in this vicinity recently has exceeded $100,000.

This dead weight of sand varies in different kinds of American tobacco. Some Bright Virginia leaf, examined at Bristol and dried at 212° F., contained 23.22 per cent of inorganic matter, including sand,

and 8.08 per cent of sand, while some Bright Virginia strips, dried at the same temperature, contained 11.65 per cent of inorganic matter and 2.40 per cent of sand. Dark Virginia strips had 21.84 per cent of inorganic matter, and 2.31 per cent of sand, and Clarksville strips contained 20.64 per cent of inorganic matter and 3.33 per cent of sand. The highest percentage of sand was reached in seed leaf strips, which had as much as 10.45 per cent of sand in 39.20 per cent of inorganic matter.

DAMAGE BY SAND.

Not only does this sand in itself as bulk cause a definite and serious loss to the importer, but sand speedily blunts the knives of cutting machines, and after a while prevents the working of the cigarette machines altogether. Such machines must be stopped, on an average, once an hour, to be cleaned of sand; and where a machine is turning out a surprising quantity of cigarettes each minute, the loss to the manufacturer in stopping a machine is an item that must speedily be taken into account.

One result is that the foreign importer, who is generally compelled to buy from samples, will not take the American product, other things being equal, if it contains much more sand than tobacco offered from other quarters of the world; or, if it be a choice between tobacco from various parts of the United States, the cleanest leaf or stalk will be selected. There is more sand in American leaf tobacco than any other tobacco from the United States, and since the demand for cigarettes has increased so enormously in Great Britain, the tendency of the British importer is to look with less favor on the American leaf tobacco.

MEASURES FOR CLEANING.

No one claims that much can be done to prevent the sand from being blown on to the plants and from sticking there after the plant has become moist (as, for example, in a sand blow following a sudden shower), but it is known that much has already been done by certain packers and exporters to eliminate the sand, and that many more packers, working to gain a foreign market, might well follow the example and increase their sales. There are two or three stages in the handling of the tobacco when it could be shaken and some of the sand dislodged, but probably the best time would be when the tobacco is passing through various stages of drying, moistening, etc. Some ingenious appliance for gently but effectively shaking out the useless grit when the tobacco is driest would eventually reduce the weight considerably, in some cases 5 or 6 per cent in a hogshead, and make the article proportionately more salable and satisfactory to the foreign buyer.

What is suggested here in regard to the cleaning of tobacco may well be considered by other exporters who handle lines of American goods into which much refuse often works its way, and for which somebody eventually has to pay, causing, sooner or later, considerable dissatisfaction. A glance at the displays of foreign produce in wholesale and retail shops in Europe shows the wide difference in quality of various exports. This suggests the possibility that some communities or individuals early secure a higher place in the esteem of the foreign buyer, and a greater value for their names and trademarks, because, in the very initial process, they give painstaking labor to the preparation of the exports, and even to the finishing

touches in packing they have regard to the external appearance of their wares, and the possibilities of reaching the mind and the palate by means of the eye. Although American exporters have made great progress in such matters recently, they have too often in the past been very negligent as to the clean and artistic appearance of their goods, and the result has been that products no better or cleaner than our own, but more artistically presented to view, have taken precedence in foreign markets and acquired a superior reputation that was often not wholly deserved.

CULTIVATION IN IRELAND.

GOVERNMENT GRANT FOR ENCOURAGEMENT OF TOBACCO GROWING.

Reporting upon the government grant of $30,000 per annum for five years for the encouragement of tobacco cultivation in Ireland Consul-General Robert J. Wynne, of London, writes as follows:

The cultivation of tobacco in Ireland was strictly forbidden until recently, when a rebate of 1 shilling (24⅓ cents) per pound was granted to encourage a revival of the industry. It is claimed that the climate of Ireland is suited to tobacco culture, that the experimental stages have been successfully mastered, and it is believed that by the year 1913, with the help of the government grant, Ireland will have a flourishing tobacco industry in the agricultural provinces of Leinster and Munster.

HOLLAND.

GROWS LITTLE BUT DEALS LARGELY IN TOBACCO.

The following information concerning the tobacco trade of Holland is furnished by Consul Henry H. Morgan, of Amsterdam:

Amsterdam is one of the largest tobacco markets of the world and receives and distributes most of the tobacco grown in the Dutch possessions. The principal kinds—Sumatra, Java, and Borneo tobacco—were sold during the calendar year 1907 to the value of $36,200,000, against $31,800,000 during the year 1906. The Sumatra tobacco received in Holland during the year 1907 amounted to 246,830 bales, which sold for $24,400,000, at an average price of 63.6 cents per kilo (1 kilo=2.2 pounds). Of Java tobacco, 571,309 bales were sold for $10,760,000, an average price of 11.8 cents per kilo, and of the Borneo crop, 16,212 bales were sold at an average price of 40 cents per kilo.

IMPORTS AND STOCKS OF TOBACCO ON HAND.

The following statement shows the imports and sales of tobacco into and in Holland during the calendar year 1907:

Whence imported.	At Amsterdam.		At Rotterdam.		Total for Holland.	
	Imported.	Sales.	Imported.	Sales.	Imported.	Sales.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
United States	3,087	3,416	2,401	1,953	5,448	5,369
Seed leaf	360	360	.....	.....	360	360
Sumatra	226,761	226,705	20,125	20,125	246,886	246,830
Borneo	16,212	16,212	.....	.....	16,212	16,212
Java	444,936	451,664	124,821	119,645	569,757	571,309
Manila	5,383	5,383	.....	.....	5,383	5,383
Levant	.....	.....	4,043	3,565	4,043	3,565
Venezuela	553	553	.....	.....	553	553
Total	697,292	704,293	151,390	145,288	848,642	849,581

The following statement shows the stocks of tobacco on hand at the beginning and close of 1907:

Description.	At Amsterdam.		At Rotterdam.		Total for Holland.	
	Jan. 1.	Dec. 31.	Jan. 1.	Dec. 31.	Jan. 1.	Dec. 31.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
United States	622	293	183	625	805	918
Sumatra	291	347	.....	.....	291	347
Java	27,873	21,145	3,877	9,053	31,750	30,198
Levant	.....	.....	1,722	2,200	1,722	2,200
Total	28,786	21,785	5,782	11,878	34,568	33,663

It will be seen from the foregoing that Amsterdam took from the United States 3,087 bales of tobacco in 1907, which is a considerable decrease as against former years. Owing to two successive small crops of Maryland the price of this tobacco increased considerably, and, in consequence, a substitute was found therefor, especially in Java tobacco. From this fact it will be seen that should there be a material rise in the price of American tobacco, say from 20 to 30 per cent, there would undoubtedly be a rapid increase in the substitution therefor of tobacco grown in other countries. On account of the increase in price of burley, Kentucky and Virginia business in these brands became more and more difficult and in many cases impossible.

EXPORTS TO THE UNITED STATES—DUTCH GROWN TOBACCO.

The export of tobacco from this consular district to the United States during the years 1903, 1904, 1905, 1906, and 1907 was as follows: $4,483,226, $5,076,660, $5,158,468, $7,726,663, and $8,059,771, respectively. This is composed entirely of tobacco grown in the Dutch possessions, as no tobacco grown in Holland is exported to the United States.

The tobacco grown in the Netherlands is considered by some authorities to be fully as good as American tobacco, although none of it is used as a substitute for the American tobacco now imported. The greater part of the crops produced is exported to England and Germany. It can not be used for wrappers. It is sold at a lower price than other tobacco. The sand leaves from the Betuwe and from the Veluwe are used for fillers, as are also the ground leaves to some extent. The part of the tobacco reserved for home consumption is principally made into pipe tobacco.

Although no exact records exist as to the total production of the tobacco crop in the Netherlands, yet, according to approximate figures, which the Ministry of Agriculture and Industry and Commerce has kindly furnished, the crops for the years 1902, 1903, 1904, 1905, and 1906 were as follows, in pounds: 2,210,612, 1,769,812, 1,492,068, 1,489,904, 1,608,920, respectively.

At one time there was a great deal of tobacco grown in the different provinces of Holland. In the year 1856 over 5,000 acres of land were under cultivation with tobacco, but on account of decreased prices the area of cultivation decreased from year to year, until in 1906 only 887 acres were under cultivation, of which 450 acres were located in Gelderland and 437 in Utrecht.

At the present time the Utrecht tobacco is cultivated on the sandy soil of Rhenen, Elst, Amerongen, and Leersum, and the Gelderland tobacco on the clay ground of Betuwe and on the Meuse and Waal.

In former years large quantities of tobacco were grown in the neighborhood of Amersfoort and Nykerk, but in later years this culture has entirely disappeared. No government aid has ever been given for the cultivation of tobacco in Holland, nor is any contemplated.

TURKEY.

TOBACCO A GOVERNMENT MONOPOLY—IMPORTATION PROHIBITED.

The following information concerning the tobacco trade and tobacco cultivation in the Turkish Empire is furnished by Consul-General Edward H. Ozmun, of Constantinople:

The tobacco industry is controlled by a Government monopoly granted to the Régie Cointeressée des Tabacs de l'Empire Ottoman, for which at present a yearly royalty of $3,300,000 is paid to the Government and ceded by it as a revenue to the Ottoman public debt administration. Further, from the net profits of the company, after paying 8 per cent interest on share capital and 5 per cent on founders' shares, the balance is distributed as follows: To the Imperial Government, 30 per cent; to the public-debt administration, 35 per cent; to the shareholders, 35 per cent.

The following revenues which have accrued to the public debt since the establishment of the Régie, in 1884–5, shows the growth of the industry: 1884–5, $3,013,045; 1894–5, $3,463,165; 1904–5, $3,667,444; 1905–6, $3,632,086.

These ceded revenues are little or no criterion of the extent of the industry in this country. In his special report for 1905–6, the president of the council of the Ottoman public debt (the representative of the British bondholders) stated that the total sales of the Régie for that year amounted to 16,605,000 pounds of tobacco, and estimating the annual consumption per capita at 11 pounds, the tobacco sold by the régie was consumed by some 1,500,000 inhabitants out of 30,000,000 to 40,000,000.

DUTIES AND IMPORTS.

There is a protective duty of 75 per cent ad valorem on imported cigars and chewing tobacco and of 100 per cent ad valorem on snuff. The importation of tobacco is prohibited, and any arriving is treated as contraband and confiscated. The import duty, which by the terms of the convention is collected by the Régie, amounted during the year 1905–6, according to the company's published balance sheet, to $35.420, so that the imports are small. Quantities are given as 6,926,631 cigars and 39,151 pounds snuff.

Cigarette tobacco is essentially an article of production and export of this Empire. An insignificant quantity of cigars and also some snuff are imported. Tombac (Nicotiana persica) for smoking in narghiles is imported from Persia to the extent of a little over 1,000 tons annually.

TOBACCO CULTIVATION.

There is little or no control over the cultivation of tobacco in the Empire. Tobacco is cultivated anywhere and everywhere, whether the soil is suitable or not. In those districts where the best qualities are grown the cultivators limit their production for fear of reducing

the prices, and it is here where the Régie comes into direct competition with the exporters, but in all other districts, by the terms of its convention, the Régie must purchase all the tobacco grown. It naturally follows that much inferior tobacco is produced, which is useless for purposes of export and which the Régie is obliged to utilize. In six years the present concession comes to an end.

In the great centers where the best tobacco is grown the following comparison, showing the quantities purchased by the Régie for local consumption and that by the exporters, is of interest:

Districts.	Purchased by the—	
	Régie.	Exporters.
	Pounds.	*Pounds.*
Cavalla	695,200	18,033,400
Salonica	2,948,000	6,930,000
Samsoun	1,027,400	11,191,400
Smyrna	1,203,400	5,170,000
Xanthi	11,000	4,793,800
Total	5,885,000	46,118,600

The average price of the tobaccos bought by the Régie in the foregoing districts is 12 to 16 cents per pound, whereas in other parts of the Empire the price varies from 1.6 to 6 cents per pound.

A normal crop of tobacco is about 33,000 tons, of which 20,000 tons are exported.

Turkish tobacco is essentially a cigarette tobacco; an unsuccessful attempt was made by the Régie to use Turkish tobacco in the manufacture of a high-class cigar, but this was abandoned and none but an inferior grade of cigar is now made locally.

During the years 1905, 1906, and 1907 the exports of tobacco to the United States have nearly trebled, viz, $833,234, $1,690,948, and $2,393,959, respectively. The increase occurred in the consular districts of Salonica, Samsoun, and Smyrna.

BRITISH INDIA.

EFFORTS BEING MADE FOR IMPROVED CULTIVATION OF TOBACCO.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the tobacco industry of British India:

The tobacco industry in India is likely to improve and enlarge considerably within the next decade. The soil and climate in many localities are well adapted therefor, and what is needed is improved seed and improved methods of cultivation and curing. In these the Government is taking an interest, and the desired results will not be long delayed.

The total exports of tobacco from all India during the fiscal year ended March 31, 1907, were as follows: Unmanufactured, 20,944,112 pounds, valued at $683,207; manufactured, 1,348,368 pounds, valued at $348,785, which was an increase over the preceding year.

MADRAS PRESIDENCY.

The tobacco industry in India is likely to improve and enlarge very considerably within the next decade. The soil and climate in

many localities are well adapted, as has been proven, and what is next needed is improved seed and improved methods of cultivation and curing. The Government is taking an interest, and the desired results will not be long delayed.

The tobacco industry in Madras Presidency is making a good showing, as the following figures furnished by the Government prove.

The average of manufactured and unmanufactured tobacco exported from the Madras Presidency during the years 1905–6, 1906–7, and 1907–8 were as follows:

Years—	Manufactured.		Unmanufactured.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Pounds.*	
1905–6	665,985	$256,090	1,172,147	$58,826
1906–7	587,923	169,578	1,236,972	58,425
1907–8	570,971	150,697	1,334,309	68,425

The low-grade leaf was in greater demand in the Straits Settlements. There was a decrease in the export of cigars owing to the fact that the Straits Settlements called for a lower and cheaper grade of cigars than those produced in Madras. There were 83,534 pounds of tobacco shipped to the United Kingdom in 1907–8, and 350,134 pounds to the Straits Settlements, a slight falling off to the former and an increase of 57,035 pounds to the latter.

COMPETITION OF AMERICAN TOBACCO AND CIGARETTES.

In relation to the competition of American tobacco and cigars the government report says:

The trade in India tobacco, manufactured and unmanufactured, is feeling very severely, both at home and abroad, the competition of America as a grower of tobacco and a maker of cigarettes, and of certain European countries as producers of cigars. Some progress is, however, being made in the adoption of more exact methods of cultivation and manufacture.

FOREST PRODUCTS.

TIMBER TRADE.

CANADA.

DECREASED DEMAND CAUSES REDUCED CUT OF LUMBER IN ONTARIO.

Consul R. S. Chilton, jr., reports that according to an article recently published in Toronto, the Ontario lumbermen have decided to reduce the cut of lumber in the bush during the coming winter by 50 to 75 per cent on account of stagnation in the trade and American competition in Canadian markets. The consul continues:

According to this article the cut in 1906–7 was 25 per cent greater than the previous year. A quarter of that cut was left over, either in logs in the booms or as lumber in the yards. When the lumbermen faced the season of 1907–8 they reduced their cut by 25 per cent, calculating that the stock on hand and the cut of the last season would meet all requirements, and it did, for the financial collapse came and the demand for lumber declined as did other products. The article also states:

There is a feature in lumbering operations which must be understood in order to grasp the situation. The operator pays the Crown $10 per 1,000 feet B. M. and $2 per 1,000 feet B. M. in addition, or $12 in all. It is technically called "stumpage." Besides, he pays the price he bids for his limit at the auction sale. When he has paid that price he owns the timber and can cut or hold, just as he pleases. With stumpage at $12 per 1,000 it costs the operator $25 to produce 1,000 feet of lumber at the mill—that is, the operations of cutting, hauling, towing, sawing, cost $13 per 1,000 feet B. M. in addition to the $12 stumpage. It is easy to see how vast sums of money can be tied up if the lumberman can not get rid of his season's cut.

On the other hand, if the operator foresees that he can not clean out his mill yard, and does not cut, but leaves his timber standing in the bush, he is really making money. He saves the stumpage of $12, and the operating cost of $13 per 1,000 feet B. M. More than that, his uncut timber is making money for him because it is increasing in value.

That is the view taken by five of the leading lumbermen in Toronto, who are the largest operators in the Georgian Bay district, which produces some 400,000,000 feet B. M. of Ontario's total output.

COMPARATIVE OUTPUT AND EXPENDITURES.

Last year, 1907–8, according to the Government returns, the Ontario cut was 907,640,000 feet B. M. of pine and 54,080,000 of other timber. The revenue was $1,500,000, or will be when all is gathered in. Owing to the pinch of hard times some operators have been granted an extension of time.

In the coming season, 1908–9, the cut will be reduced by half, and the revenue also, resulting in a loss to the province of $700,000, unless the unforeseen happens. It means more in other ways. Roughly speaking, it takes 50 men to cut enough timber in the bush season to produce 1,000,000 feet B. M. at the mill. Thus, the Ontario cut of 961,000,000 feet employed 48,000 men last winter. The coming winter will see but 24,000 at work. These men will be paid from $15 to $25 per month. Last year the 48,000 men earned from $18 to $28 per month, a total of $1,056,000 per month, averaging the wages at $22 per month. The coming winter the 24,000, whose wages will be from $15 to $25, will earn $480,000 per month, a loss of $576,000 in wages.

The food bill of the lumber army is a big thing. It costs about $12 per month to feed a healthy lumber jack, and the sum of $600,000 per month was

last year spent among merchants and farmers for food supplies for the camps. The coming season will see it reduced by some $300,000 per month. Another loss will result from the decreased demand for teams for bush work and their food—hay and oats. Leaving this last out, the monthly loss in food bills and wages will be $1,596,000. American competition has a good deal to do with the stagnation in the demand for Ontario lumber.

One factor may relieve the situation, viz, extensive bush fires. A fire going through a bush does not burn the timber, but kills it. If cut the same year it can be saved, but it must be done before the worms, which always attack dead timber, get into it.

COLOMBIA.

VALUABLE TIMBER RESOURCES AND USE OF THE CARTAGENA CANAL.

Consul Isaac A. Manning writes from Cartagena that a number of Americans and others have recently been examining the forests on the banks of the Magdalena River in Colombia with a view to their exploitation for export. Concerning the timber and the availability of the Cartagena canal for its transport, the consul says:

I am informed that large bodies of most excellent timber, carrying, in addition to Spanish cedar and mahogany of the finest quality, many other valuable trees of beautiful grain, have been discovered, and a great deal of the timber is of easy access to the Magdalena River. One of the main questions is the possible delivery of this timber at the seashore, as the delta proper of the Magdalena offers no facility therefor. Examination has recently been made of the "dique" by an English gentleman who has several options on a large tract of this timber, and he declares that it is possible to float or raft logs through it for at least eight months of the year.

This dique, which draws its main water supply from the Magdalena River at Calamar, is almost a hundred miles long and quite tortuous for part of its distance, and is very much overgrown with wild hyacinth; but recently the Condor, a screw steamer forced its way the full length of the dique, and demonstrated that the waterway is open. The English gentleman referred to recently came through the dique and informs me that in his opinion logs can be easily handled therein for at least half the year, and usually eight months.

At periods when the dique might be closed to navigation, logs could be loaded on the cars at Calamar or at Barranquilla, and thus taken alongside ship without delay.

To make navigation of the dique feasible for steamers the entire year would without a doubt be an expensive proposition, according to an American engineer who recently examined it with that end in view, but it would seem that to float logs through would not be difficult. If proved feasible, it will open up great bodies of valuable timber in the interior valleys of Colombia. There is said to be a fair current through the dique during the six or eight months of high water when logs would float without much attention. At the other seasons, i. e., of low water, it is believed that they could be towed through.

The dique empties into a deep gulf opening into the sea about 7 miles south of Cartagena Bay. This gulf is protected and at almost any season ships could lie near the mouth of the canal or dique to load logs.

CHINA.

ACACIA CONSIDERED AS GOOD AS PINE OR CEDAR FOR MINING TIMBER.

Vice-Consul Ernest Vollmer, of Tsingtau, furnishes the following information concerning the growing of acacia trees on barren land and the use of the timber for mining purposes:

During the ten years of German occupation of the Kiaochow colony one of the most active branches of the Government has been the forestry department. After experiments with a large variety of trees, to determine what would grow best and quickest here, the acacia was chosen as the tree to be used most in the afforestation of the bare hills surrounding Tsingtau. The reasons for this selection were twofold: A tree was wanted to make shade and cover the hills as soon as possible, regardless of its value, and the poor soil precluded the use of a variety which would not grow in almost any sort of earth. While these acacias (robinia pseudoacacia) have been growing, more valuable woods of all sorts, adaptable to the climate, were being constantly planted.

In the winter 1906–7 acacias planted in 1902 and 1903 were cut for the first time. All timber up to 5 centimeters (1.97 inches) diameter was sold to the Shantung Mining Company for mining timber. This company has made extensive experiments with the wood, and now reports that for mining purposes the acacia is as good as or better than the pine and cedar varieties now being imported from Japan. The demands of the company are growing from year to year, and are now at 20,000 cubic meters (706,280 cubic feet) per annum. With the satisfactory results of these tests the German Government has decided to go heavily into the acacia raising business here, as there are large tracts of land apparently worthless for anything else. The acacias also have many other good points. Unlike the pines, they are not subject to disease or ravages by insects; furthermore the entire cost of production is covered by the sale of refuse twigs, etc., to the natives for firewood, while the mining company has agreed to take all timber offered at about $5 per cubic meter (35.314 cubic feet).

MEXICAN RUBBER TREE.

ANOTHER PROSPECTIVE SOURCE OF SUPPLY RECENTLY DISCOVERED.

Consul Charles M. Freeman, writing from Durango, explains the growing interest in a newly found rubber-yielding tree in Mexico, the utilization of which is expected to follow that of the guayule shrub:

The guayule, or rubber substitute, five years ago was practically unknown as a commercial factor. In the year 1905 there was exported to the United States nearly $125,000 worth; with the year ending June 30 the exportations of the product of this plant amounted to over $2,250,000 from this consular district alone. The guayule business has grown to one employing several thousand men and capitalized to the extent of over a million dollars.

Since the exploitation of the guayule business, with its attendant financial success, prospectors have been investigating other plants and trees in this part of Mexico in the hope of meeting with similar good fortune.

The investigators confidently expect to more than duplicate what has been achieved with the guayule plant. They claim that the sap from the palo colorado tree contains over 33⅓ per cent of pure caoutchouc. Several tons of sap have been gathered and is being experimented upon. The results of the experiments have not been made public, but the fact of bonding large tracts of land would indicate that the promoters have great confidence in the ultimate outcome.

DESCRIPTION OF THE TREE AND ITS YIELD.

Of the palo colorado or cucuracho tree I have been able to secure the following information: This tree grows fairly abundantly on the Pacific slope of the Sierra Madre Mountains at an elevation of from 2,500 to 4,000 feet above sea level, and it forms in many places the line of demarcation between the pine and oak timber.

The largest and most thrifty growth is to be found in the shady places—that is, in the shade of other trees of a larger growth or in the mountain ravines where the sun shines little. The tree attains an average height of 24 feet, and in diameter is from 8 to 14 inches.

The leaves are large, oval in shape, usually three on a stem, sometimes five, the leaf stem being about 6 inches in length and the size of a lead pencil. A person handling the leaves experiences the same sensations as in handling nettles. The tree bears a large white blossom, commencing to flower in May and continuing in flower until late in August. The bark is a dark reddish gray in color, very soft and thin. It is tapped in the same manner as the true rubber tree, and when tapped there exudes a thick white sap which, as it is exposed to the air, becomes semisolid. The pans used in collecting are wet to prevent the sap from adhering. The season for sap gathering continues throughout the whole year. When tapped the larger trees produce as much as a kilo (2.2 pounds) per day, but after one or two days' run the cut is closed with clay to allow the tree to regain its vitality.

It is also stated that the tree is most easy to propagate; branches broken off and pressed into the soil take root and grow. The small piece of the solidified sap forwarded is exactly as it comes from the pan after being exposed to the air for a few hours. [Sample may be seen at the Bureau of Manufactures.]

CEYLON CAMPHOR GROWING.

RAPID EXTENSION OF THE INDUSTRY AT VERY LOW COST.

Vice-Consul W. H. Doyle, writing from Colombo, says that an early and appreciable contribution to the world's supply of camphor is promised as the result of recent and current planting operations in Ceylon. In 1907 the camphor acreage of the island was increased from 142 to 1,106, and the indications are that the new acreage of 1908 will be even greater. The vice-consul continues:

Camphor planting has been stimulated by the high price of the drug, and by the successful results of experimental planting. While camphor will not grow at sea level in Ceylon, it finds congenial conditions in the mountainous parts of the island, and thrives finely at elevations of from 2,500 to 8,000 feet. The situation is so favorable to its profitable production that enthusiastic planters entertain the belief

that Ceylon in a few years will produce camphor in quantity greater than the world's present demand. It is estimated that the planting of between 15,000 and 20,000 acres in Ceylon would develop a production of 8,000,000 pounds, which, according to most authorities, is the quantity of camphor demanded annually at present.

The rapid growth of the twigs and the cheapness of land and labor are the factors depended upon by planters to give Ceylon an advantage over other camphor-producing countries. The figures given by planters to represent the cost of a pound of Ceylon camphor are much below the figures representing the reputed cost of synthetic camphor produced in the United States from turpentine oil.

PRICE STIMULATES PLANTING—CULTURAL OPERATIONS.

The growing of the camphor tree in Ceylon was first undertaken, in a purely scientific way, at the government experimental gardens at Hakgala. The experiments were eminently successful. Little attention was paid to the outcome of these experiments at first, as the price of camphor then ranged as low as $40 to $45 per hundredweight. But when the smokeless-powder requirements of the Russo-Japanese war more than doubled the price, a commercial interest in the tree was created. Last year it was demonstrated beyond a doubt that camphor cultivation in Ceylon could be made highly profitable. Immediately the importation of seed from Japan was begun, and it has continued to the present day. Seed and root cuttings from the Government gardens also are being used in considerable quantities.

While the camphor tree, if permitted to grow, attains a height of about 40 feet, according to the Ceylon method of cultivation the trees are coppiced and kept at the more convenient height of 4 to 5 feet. The first clippings are made when the trees are 3½ years old and are repeated at intervals of four months; in some instances the trees may be clipped every three months. The trees are planted 8 by 4 feet apart, or 1,360 to the acre. The results of distillations show that trees planted and clipped as stated would yield annually about 190 pounds of made camphor to the acre.

One planter is reported to have greatly increased the yield of camphor gum from a given quantity of twigs, by expressing it instead of employing the usual distilling method. He has, however, while confirming the report, consistently refused to describe his press, which is of his own invention, or to discuss the subject in detail.

The Ceylon customs returns for 1907 show one exportation of camphor, weighing 562 pounds. Henceforward, it is expected, the quantities annually exported will increase in geometrical progression.

GUM GAMBOGE.

HOW IT IS SECURED IN THE COLONY OF COCHIN CHINA.

Inquiries having recently reached Consul Jacob E. Conner at Saigon in regard to gum gamboge, which is exported from that Cochin China port to London usually and thence to the United States, he furnishes the following information:

Gum gamboge, or "gamme gutte," as the French call it, is the crude resinous juice of one of the forest trees of Cambodia and Laos. The tree is also found in Siam, Ceylon, and elsewhere, and is known to science as the *garcinia marella*, *pedicellata*, or, according to other

authorities, *pedunculata.* The better grade is yellowish in color, while a grade somewhat inferior, about 1½ to 2 francs per picul (29 to 38 cents per 133⅓ pounds) cheaper, is a brownish color.

The natives obtain the juice by making an incision in the tree, into which they insert the end of a bamboo. When the bamboo is filled it is removed and split open, the gum removed and bent into folds convenient for handling, and in this condition it enters the channels of commerce.

The shipments from Saigon for the year 1907 amounted to 186 tons gross, or about 140 tons net, worth $171,459, or about $1,224 per ton, a little over 60 cents per pound.

It is greatly desired by manufacturers of paints and varnishes, and is used also for medicinal purposes.

CHINESE WOOD OIL.

REPORT FROM FRANCE ON ITS INDUSTRIAL USE.

Replying to a request for information about China wood oil, Consul-General Robert P. Skinner, of Marseille, France, states that it is obtained at present from the seed of the Elæococca verrucosa, a member of the Euphorbia family, and must not be confounded with the product obtained from the dipterocarpus turbinatus, also so-called wood oil. The consul-general continues:

The fruit of this tree yields 35 per cent of oil, which is colorless, odorless, and tasteless. It is the most siccative of all oils. It is used to close the pores of wood intended to be lacquered. It is also used to paint boats and to preserve woods generally, and for lighting purposes. The Japanese produce wood oil in the provinces of Figo, Sagani, Musasi, and Idzu. The Chinese produce it upon a large scale and export it from Hankow. [A report from Hankow on wood oil was published in Monthly Consular and Trade Reports for September.—B. of M.]

This oil remains liquid indefinitely while in obscurity, even at low temperatures, but if exposed to the sun in a closed tube it acquires a concrete form in two or three days. The solidification does not appear to affect its neutrality. By saponification the fatty acids obtained furnish a solid and white product.

FOODSTUFFS.

MARKETS FOR COMESTIBLES.

ENGLAND.

DEMONSTRATION METHODS FOR SELLING AMERICAN FOOD PRODUCTS.

Consul Charles N. Daniels writes that a short time ago one of the large meat packing firms of Chicago conducted a two weeks' demonstration of their products in one of the principal grocery establishments in the center of Sheffield. As to the propriety of this manner of introducing American food products in England the consul says:

This demonstration doubtless resulted in bringing to the attention of consumers the value of the products shown and the care that is given to their preparation. It may be well to call attention to the fact that the larger grocery stores in this city are not the places where a demonstrator would come in contact with the great mass of consumers; the trade of these large establishments is more on order by servants or by telephone, while the housewives who do their own shopping get their supplies from the smaller shops in their immediate neighborhood.

Had the greater part of the time of the demonstrator been spent a day or two at a time in these smaller shops, by far a larger number of direct consumers of the middle class would have been come in contact with, and it is this class that are the largest consumers, and it is among this class that the prejudice against American tinned (canned) goods is the strongest. Again, short time demonstration among the smaller shops of an English city would result in educating the shopkeeper as well as the consumer as to the value of the products and the various uses to which they could be put. This suggestion holds good as regards American canned and dried fruits as well as meat products.

FRESH AND CANNED FRUITS.

The English can hardly be called a fruit-eating nation, but that this people will eat fruit when the supply is adequate and the price low is shown by the fact that less than four years ago the only bananas to be had in Sheffield were the small Canary bananas sold at two to three cents apiece, while to-day Jamaica bananas are hawked about the streets and freely offered at two for a penny (1 cent each), and are eaten by the thousand; and the further fact that there has been produced and consumed this season in England from 50,000 to 60,000 tons of strawberries.

On the shelves of every small grocery shop in this city may be seen a stock of American canned fruits, and doubtless in their stock is to be found a supply of dried fruits as well. Some of the canned goods

by their appearance show them to be slow of sale, and the reason for this is in the lack of knowledge of their value as a food, and the variety of ways in which they can be used. Many of the dealers know as little as the customer in this respect.

A systematic campaign of demonstration, instructing alike dealer and customer, coupled with judicious advertising, would result in increasing the sale of these products and building up a trade that would be free from danger of loss by home competition.

CHINA.

AMERICAN BAKERS WOULD FIND A GOOD MARKET FOR BISCUITS.

The following report from Consul Ernest Vollmer, at Tsingtau, indicates a good market for cakes and crackers in the Far East:

In every European settlement throughout the East one can find a good stock of biscuits and crackers, all of which seem to command a ready sale, not only among the foreigners, but also among the Chinese. Despite the importance to which this trade has grown in comparison to the population, American-made goods are not on sale, one English make having a practical monopoly.

An assortment of samples from a Pacific coast manufacturer came here recently; the biscuits were put up to meet all requirements of the climate, labels were neat and artistic, and the goods were first class. Unfortunately the prices were not known, but several dealers on being interviewed made the remark that they would in all probability not take the crackers anyhow, as the brand was unknown.

Especially during the warm summer months, when the making of cake is too arduous, these biscuits are almost universally used for afternoon tea. The favorite size is the two-pound tin, as larger quantities would in all probability spoil before they were consumed. Everything must, naturally, be packed solid in tins in order to withstand the dampness, and cartons would not do under any circumstances. Considering the perfection which this particular branch of trade has reached throughout the United States, it seems reasonable to assume that, with proper agents and experimenting with samples, at least a portion of the China trade should be diverted to America. The tendency on the whole is to use sweet, plain crackers, and avoid frostings or fruit varieties. Soda crackers are by no means used to the extent they are in America, and would not be large sellers. [The consul transmits a list of the foreign cakes and biscuits now sold, with retail prices, etc., which is filed for trade reference at the Bureau of Manufactures.]

MOROCCO.

COMESTIBLES WHICH AMERICAN EXPORTERS MIGHT FURNISH.

Vice-Consul George E. Holt, of Tangier, transmits the following list of prices of grocers' supplies usually found in the stores of that Moroccan metropolis:

Probably no grocer and perhaps no other merchant in Morocco buys all of his goods from any one country. The exigencies of trade have made it profitable for him to go to all the principal markets of Europe, and in some cases to American markets, for his supplies.

Therefore the shop of the average Moroccan merchant contains either the cheapest goods or the best goods to be bought in Europe at a moderate price.

The following figures give cost prices on certain articles in the stock of an American grocer in Tangier bought in London, and may be taken as prevailing prices on these goods in Morocco:

Per hundredweight: Soaps, blue mottled, $5.04; carbolic, $5.46; household, $5.76; dried peaches, $17.52; dried pears, $16.80; fruit jams, mixed, $3.12; raspberries, $4.80; greengage, $3.84; apple, $4.80; black currant, $6, and plum, $4.08.

Per dozen bottles: Perfumery, jockey club, $5.22; musk, $5.22; violet, $4.80; white rose, $4.56; Scotch whisky, $2.44 to $4.80.

Per pound: Butter, Danish, choicest quality, 28 cents; selected, 34 cents; Lombardy, nicest quality, 24 cents; Irish, extra superfine, 22 cents. Biscuits and crackers: Albert, 12 cents; American crackers, 9 cents; boudoir, 20½ cents; cracknel, 22 cents; fairy cakes, 15 cents; family, 8 cents; milk, 8 cents; water, 8½ cents.

Tinned meats, per dozen cans: Ox tongue, 1-pound tins, $4.86; lunch tongue, 1-pound tins, $2.40; corned beef, 2-pound tins, $2.16; boneless chicken, 2-pound tins, $3.60; fresh herrings, 1-pound tins, 72 cents; prawns bratilia, 1-pound tins, $1.92; oysters, per 4 dozen cases, $1.19.

Tinned vegetables, per dozen tins: Asparagus, 2-pound tins, $2.64; petit pois (green peas), pint tins, 72 cents; champignons, pint tins, $1.44; haricot vert, pint tins, $1.14; spinach, quart tins, $1.26.

Fruits in sirups, per dozen tins of 2 pounds each: Cherries, $2.16; apricots, $2.04; pears, $2.10; greengage, $1.98; chinois, $1.15; tamarinds, $1.92; dates, $1.86.

Candles bought in Belgium, per dozen pounds: Sperm, $1.02; paraffin, 98 cents; wax, 98 cents.

Self-raising flour from London, $2.36 per dozen bags of 5 pounds each, and flour from Marseille, $6.40 per 220 pounds.

FISHERY PRODUCTS.

CHINA.

CONSUMPTION OF JAPANESE ABALONE AT SHANGHAI.

In reply to an inquiry from a California house, Consul-General Charles Denby furnishes the following information concerning the trade in abalone in Shanghai:

Abalone is not the trade name for this product in China. Among the foreigners it is known by the Japanese name, awabi; the Chinese call it Pao Yü. The customs statistics for 1906 (the latest available) show that about 104,000 pounds of dried awabi, valued at $26,194, and 15,325 dozen cans of preserved awabi, valued at $32,449 (gold values), were imported into Shanghai from foreign countries in 1906.

Practically all of this came from Japan. There seems to be no American abalone on the market here, imported direct from the United States. A superior quality of dried Chinese abalone is had in Foochow and Canton, but only small shipments thereof ever enter the Shanghai market.

Awabi is not used by the masses of the people, being regarded more as a luxury, but the richer classes consume a great deal, particu-

larly of the canned product, while the dried awabi is used extensively by the Chinese restaurants and also by the middle classes. The demand for both the canned and dry product is steady throughout the year.

AMERICAN ABALONE.

Several years ago an American firm attempted to place canned American abalone on this market. The product was very carefully prepared and labeled for the China trade, and a number of cases distributed as samples among the restaurant and shopkeepers. All agreed that the quality was much superior to that of the Japanese awabi, but the price was too high to induce a single order. The market in Shanghai for American abalone will depend entirely upon whether Americans can offer their product in competition with the Japanese article. Abalone is not a product for which a high price will be paid to secure a superior quality.

An American firm in Shanghai, whose main office is in San Francisco, has investigated the market quite thoroughly, and state that they would be pleased to secure such an agency if the American product can be offered in competition with the Japanese. They are large and reliable American importers of this class of goods at Shanghai.

[In addition to the firm just mentioned, the addresses of four importing firms at Shanghai, with whom exporters of abalone should correspond, have been received from Consul-General Denby, and are on file in the Bureau of Manufactures.]

POSSIBLE MARKET AT AMOY.

STEADY DEMAND SHOULD AFFORD OPENING FOR CALIFORNIA PRODUCT.

Vice-Consul E. Carlton Baker, of Amoy, advises that there is considerable opportunity in China for the sale of the abalone, a shell fish found in large quantities on the Pacific coast of the United States, to which he adds:

No attempt, as far as this consulate can ascertain, has been made to introduce this American product here, though large quantities of abalone from Japan are now sold in China under the name "Awabi." It abounds in Japanese waters, and its use by the Chinese as a foodstuff dates from time immemorial.

There is an unlimited market for the prepared product in China, for awabi now constitutes one of the most delicate dishes of the better class of Chinese. Its demand is constant throughout the year and its use universal throughout the Empire.

Since the introduction of the canned abalone in comparatively recent years, there seems to be a growing demand in favor of the canned instead of the dried product, both coming chiefly from Japan and the Loochoo Islands. The import duty on awabi in bulk is 1.5 haikwan or custom taels per picul (133⅓ pounds), or 83 cents gold per hundredweight. The importation into Amoy amounted to 41,333 pounds in 1907, against 44,266 pounds in 1906 and 52,366 pounds in 1905.

LOCAL SELLING PRICES.

The canned abalone sells in the local market at $12 Mexican ($1 Mexican=50 cents gold) per case of 48 cans, or $3 Mexican per dozen, each can containing one large abalone or two smaller ones,

while the retail price averages about 35 cents Mexican per can. The dried abalone sells at about $2.20 Mexican per catty (1⅓ pounds), or 69 cents gold per pound, and its value varies according to the freshness of the prepared product, the salty ones being in disfavor with the Chinese.

The Japanese product now controls the market, although some Australian ones are being introduced here, but they are not yet popular and can hardly compete successfully with the Japanese. The price for this abalone (Australian) is only about 32.5 cents gold per pound.

The dealers in Amoy are numerous, and are at present dependent upon the jobbers in Hongkong for their supplies. American dealers desirous of entering this field would do well by establishing agencies at Shanghai and Hongkong, as these places are the distributing centers. Direct shipments could easily be made from San Francisco to these ports. [A list of the principal abalone dealers at Amoy may be obtained from the Bureau of Manufactures.]

As the abalone abounds in southern California in quantities sufficient to export at the rate of hundreds of tons per annum this industry could probably be considerably developed. Not only would there be a large profit from the edible portion of the abalone, but the shell could be also sold at a good price, and would constitute a valuable by-product.

CANADA.

VOLUME OF THE LOBSTER CATCH OFF PRINCE EDWARD ISLAND.

Consul Franklin D. Hale, of Charlottetown, states that the lobster industry represents nearly one-half of the value of the fisheries of Prince Edward Island. The consul's details for this year's results, compared with the previous seasons, follow:

For the year 1906 the lobster production was about 2,330,000 pounds, worth about $575,000. The quantity stated is nearly the average for the five years ending with 1906, but an increase over the production of 1905, and the stated value was $40,000 in excess of the average for the five years. The latest completed Government fisheries report covering the year 1906 reports 188 lobster canneries, valued at $96,650, and 312,945 lobster traps in use, valued at $204,207, while 2,211 persons were employed in the canneries.

Statistics for the catch of 1907 are not yet in published reports, but I am informed by the inspector for this district that the production was large, nearly 25 per cent greater than in the preceding year. Prices ranged high, and the leading canners and exporters made their contracts for future delivery in the winter of 1907–8 at abnormally high prices.

The fisheries inspector in reporting an increase in the lobster product in this section at that time states that many of the fishermen attribute the larger catch to the hatcheries of Nova Scotia and New Brunswick, and adds, if this be true, then good results may be hoped for from the hatcheries on the island. The principal one now in operation is at Blockhouse Point in Charlottetown Harbor, which has been in operation three years. In the year 1906 80,000,000 fry were hatched and distributed in a healthy condition. A larger dis-

tribution was made in 1907. It is hoped that the public hatcheries in the maritime provinces, and an observance of the laws regulating the catch, will tend to increase the value of this industry.

Much of the capital represented in the canning factories is foreign, principally American. The factory statistics do not change materially from year to year. About one-third of the product is exported to the United States. About 65 per cent of the balance goes to England, 25 per cent to France, and the rest to the Continent.

THIS SEASON'S LOBSTER YIELD.

The catch this season is estimated to be better than the average, but possibly 10 per cent less than last year. The ruling prices at the present time (August 1) are nearly 30 per cent less than the contract prices of last winter, and the producer whose goods are not under contract may be forced to sell at still lower prices. The scaling down of the demand is noticeable in the unusually small orders rather than in the number of the orders. The largest exporter of canned lobsters to the United States attributes this condition largely to the effect of financial depression on labor. With many would-be consumers they are considered a necessity when money is plentiful, and a luxury to be given up when the price is high and money more difficult to obtain.

Similar conditions prevail in Europe, but not to so great an extent. The demand there is more stable, the laboring classes to very slight degree making a market for this kind of food. For past few years the lobsters taken have been running small in size, although this season some large ones were secured on the north shore. The medium in size, from one to two pounds in weight, are considered most desirable for canning. The cans for packing are manufactured here mostly from English tin. The American company referred to uses a heavy tin, not a heavy base, but with a thick coating of tin, which costs them $5.25 per box of 112 sheets, weighing 96 pounds.

RUSSIA.

CURTAILMENT OF THE EXPORTS OF CAVIAR TO THE UNITED STATES.

At the request of Consul John H. Grout at Odessa, Consular Agent George R. Martin, at Rostoff-on-Don, Russia, has prepared the following report upon Russian caviar:

The center of the caviar trade in southeast Russia is at Astrakhan on the Volga. There are, however, several fisheries on the river Don and the Sea of Azov. At several of the fisheries large quantities of caviar are prepared but for home production only. In 1906 caviar to the value of $10,000 was exported to the United States from Astrakhan. Since then, however, its export has wholly ceased. This condition of affairs is thought to be due to two reasons at least. First, the catch of sturgeon in the United States has been unusually abundant and, second, the quality of caviar prepared in the United States has proved to be far superior to the imported article.

Caviar is prepared in Russia in practically the same manner as in the United States. The roe, having been extracted from the fish, is rubbed through the meshes of a sieve in order that the eggs may be separated from the inclosing sacks. It is then salted with from 5 to 10 per cent of good table salt, according to the time of the year when

prepared. Afterwards the caviar is put on finer sieves in order to allow the brine to flow off. After this has been accomplished it is placed in cans and hermetically sealed.

In order to reach the market, caviar is shipped by steamer to Tzaritzin on the Volga, being forwarded thence by fast trains to Hamburg in special cars provided for the export of fish. During the warm season the caviar is placed on ice which is renewed at various places en route. On steamers from Hamburg to New York, the principal importing port, it is always stored on ice.

FLOUR TRADE.

HOLLAND.

EFFECT OF GERMAN COMPETITION THROUGH THE REBATE SYSTEM.

In stating that German flour competition is being felt severely in Holland, Consul Henry H. Morgan, of Amsterdam, gives the following details of the Dutch trade in this line:

The National Association of Holland Millers (Vereeniging van Nederlandsche Meelfabrikanten) complains of the German export policy which gives the German miller great advantages in price over Holland millers. American millers are considered fair competitors, but German millers, enjoying special privileges, offer severe competition.

German flour has always had a certain sale in Holland, but the shipments up to the last few years have been principally cheaper grades. However, when the present drawback arrangement went into effect May 1, 1906, the special export advantages allowed German millers immediately resulted in a rapid growth of the German milling industry and great increases in German patent flour exports. Naturally the first countries entered have been Holland and Switzerland, with the result that the home millers of both countries are complaining. German flour is also appearing on English markets.

The following figures, in barrels of 196 pounds, show the imports of foreign wheat flour in Holland:

From—	First half of 1908.	First half of 1907.	All 1907.	All 1906.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
United States	351,157	376,425	932,478	1,224,933
Belgium	299,362	268,582	561,195	585,416
Germany	200,880	135,483	270,112	238,207

This statement shows a gain of 48 per cent for German flour in the first half of this year compared to the same period of 1907. The increased import of Belgian flour is accounted for by the increased demand for cheap low-quality flour during the high-price period of patents in 1908.

THE GERMAN DRAWBACK.

The law governing the import of wheat into Germany and export of flour went into effect March 1, 1906. The Zollblatt für das Deutsche Reich No. 12, dated February 27, 1906, publishes the regulations.

When exporting wheat flour, rye flour, oil meal, etc., the German miller obtains a certificate of import, allowing the free importation

of an amount of the raw material corresponding to the amount of flour exported, the ratio of wheat to the amount of flour exported varying with the character of the flour. No certificate of import will be issued for rye or wheat flour extracted at a higher percentage than from 65 to 75 per cent. Each holder of a certificate is entitled to tender same at any custom-house within the country within six months of date of issue, instead of paying in ready money to effect settlement or duty. To govern this the following classes of extraction are fixed (classes 4 and 5 being fine middlings):

Wheat flour.	Per cent.	Wheat flour.	Per cent.
Class 1	0 to 30	Class 4	0 to 70
Class 2	30 to 70	Class 5	0 to 75
Class 3	70 to 75		

The following are the calculations for the import of wheat, taking as a basis the export of 220 pounds of wheat flour, certificates being given for the importation of the amount of wheat named:

	Pounds wheat.		Pounds wheat.
Class 1	352	Class 4	298.2
Class 2	258.5	Class 5	293.3
Class 3	220		

As grades 4 and 5 find no sale in Holland, grades of classes 1, 2, and 3 need only be considered.

HOW THE PLAN WORKS OUT.

The value of these certificates, based on present tariff duty of 5.5 marks ($1.309) per 220 pounds, amounts, therefore, for 100 kilos of flour:

Class 1 (352 lbs. × $1.309) = $2.094.
Class 2 (258.5 lbs. × $1.309) = $1.538.
Class 3 (220 lbs. × $1.309) = $1.309.

Actually, 220 pounds wheat yields, roughly, 176 pounds flour and 44 pounds bran. If the bran should remain disregarded in this trade it would be correct to calculate the rebate of duty in proportion of 80 to 100, or 100 to 125. A certificate of import for 125 kilos (275 pounds) wheat should therefore be granted against each 100 kilos of flour. To grant an import certificate of 160 kilos (352 pounds) wheat, being a value of $2.122 against 100 kilos, means an excess of the natural extraction proportion of 35 kilos (77 pounds). These 35 kilos, with a duty value of 1.92½ marks ($0.47), means a special premium for the flours of class 1. On the contrary, all flours of class 2 remain 7½ kilos (16½ pounds) or 41¼ pfennigs ($0.10), and those of class 3, 25 kilos (5.5 pounds), or 1.37½ marks ($0.33) below the full rebate.

As a result practically only flours of class 1 are exported. Classes 2 and 3 find a ready sale at home at high prices, corresponding to German wheat quotations.

Under this system of wheat importation it is not surprising that German mills are growing at a rapid rate. The more high-grade flour the German miller exports the greater his profit. He can sell it without regard to competition. The margin of 47 cents allows them to undersell all competitors. If this condition of affairs is permitted to exist the German milling industry should grow by leaps and bounds and flood all of Europe, except France and Russia, with high-grade flour.

SWITZERLAND.

COUNTRIES FROM WHICH THE WHEAT IS IMPORTED.

Vice-Consul Leo J. Frankenthal, of Berne, transmits information relative to the wheat and flour trade of Switzerland for 1907. The imports of wheat were as follows in tons (metric ton = 2,204.6 pounds):

From—	Metric tons.	From—	Metric tons.	From—	Metric tons.
Germany	10,934	Bulgaria and Servia	4,588	United States	14,084
Austria	15,895	Roumania	125,671	Argentina	44,475
France	1,622	European Turkey	397	Australia	3,174
Italy	382	British India	247		
Russia	233,577	Canada	13,359	Total	468,405

In contrast with the heavy importations of wheat are the following importations of flour in metric tons: From Germany, 24,125; Austria-Hungary, 375; France, 10,045; Italy, 4,007; United States, 253; other countries, 50; total, 38,855.

Russian wheat is preferred to American, even if the American wheat costs the same. The bakers demand a dry wheat that will absorb as much water as possible. Duluth and Manitoba wheat are however, always purchased if the prices are suitable, and are used for mixing purposes. The American wheat is seldom milled pure, but generally with Russian and Roumanian products. Millers say that the American wheat does not produce as much meal when crushed as the Russian.

For a number of years the price of home milled flour has been higher than that of German and French flour, and the imports were doubtless trial shipments. The millers make the same complaint with regard to the American flour as to wheat—that it is not "heavy" enough to be used pure. There is no prejudice, and the situation is caused solely by the peculiar requirements of the Swiss bakers. Bread is seldom baked by families. The principal markets for American flour are London, Amsterdam, Rotterdam, and Antwerp, whence it is imported into Switzerland, when profitable.

A government monopoly of grain has been suggested—a question that is not new in Switzerland—and a report has been requested by the Federal Council. It will be made by the director of the Federal alcohol monopoly.

ARGENTINA.

UNIFORMITY OF QUALITY SOUGHT FOR EXPORT.

Consul-General Alban G. Snyder writes from Buenos Aires that the Argentine Minister of Agriculture, as a result of statements that Brazilian and American flour were superior to the Argentine brand, ordered samples of said flours to be sent to him for analyses, so that the defect, if any, might be remedied. The public analyst states that so many different qualities of Argentine flour are exported to Brazil that a comparison of their respective merits with the one specific grade sent from the United States is impossible. In order to be able to compete with American flour it is stated that some effort is to be made to decide on a uniform quality of flour for export to Brazil and to maintain this standard so adopted.

DAIRY PRODUCTS.

ITALY.

COMMISSION INVESTIGATES USE OF BARITINE IN THE CRUST OF CHEESE.

Vice-Consul W. Bayard Cutting, jr., reports on the conclusions of a commission which has just been sitting at Milan to study, on behalf of the Italian ministry of agriculture, the results of the use of baritine (which contains sulphate of barium) in the manufacture of the crust of Gorgonzola cheese. The vice-consul writes:

The conseil d'hygiene of France recently prohibited the importation of Gorgonzola cheese on the ground that the sulphate of barium used in the crust might be injurious to health. As France is second only to England in the amount of Gorgonzola consumed, it is of great importance to Italy not to lose the French market. At the present moment there is an especially good opportunity for Gorgonzola cheese in France, because of the high price of Rocquefort, a cheese which so resembles Gorgonzola that the two appeal to the same class of consumers.

The commission have therefore lost no time in investigating the questions: (1) Is sulphate of barium injurious to the health when used to form the crust of cheese? (2) Supposing it to be noninjurious, are there no other substances which can be used with equal advantage and without giving rise to objections?

NOT CONSIDERED INJURIOUS—AVAILABLE SUBSTITUTES.

The first question is answered in the negative. Sulphate of barium is innocuous, because it is insoluble, even in acids. There is indeed the bare possibility that some of the other salts which make up baritine might penetrate the crust and ultimately soak into a portion of the cheese; but such an event must be very rare, and the amount of salts which would be consumed in the cheese must be infinitesimal.

Sulphate of barium, however, is not merely innocuous; it is unnecessary. It is not used in all Gorgonzola cheese, but principally in the cheese destined for the world market, and especially during the summer months. Equally effective for the formation and preservation of the crust are a number of substances, such as various kinds of white clay, powdered talc, brick dust, etc.

The commission recommends the adoption by Italian exporters of one of these substitutes for baritine, in order to remove every hindrance to the free development of the export trade. Experiments have already been undertaken by the chief producers of Gorgonzola cheese, who are affected by the rejection of their shipments by the French customs authorities at Modane. It is expected that they will soon find a means of making the crust of their cheese with some substance other than baritine, without imperiling thereby its durability for purposes of transportation.

FRANCE.

RECOMMENDATIONS OF THE RECENT MILK INDUSTRY CONVENTION.

Consul D. I. Murphy reports that a Bordeaux newspaper publishes an account of the proceedings of the Third Congress of the Milk Industry, held recently at Paris, concerning which he writes:

As the recommendations adopted seem to have attracted considerable attention in the milk, butter, and cheese industries in this part of France, I give herewith a translation of principal recommendations, as follows:

Milk.—(1) In all business transactions in which milk for human consumption is concerned, purchases should be effected only according to the richness of the milk in its several extractive principles and not according to volume. (2) In the actual state of things and with due regard to scientific precision, "good milk" is "the integral product, unadulterated and unchanged, of the total and uninterrupted milking of a milch-cow in good condition, well fed and not over worked." (3) The definition of "pure milk" to be as follows: "Milk having a distinctly determined origin, not having undergone any alteration, subtraction, or mixture that might change or modify its essential properties." (4) The average composition of each season be established every year by milk districts under the direction of the minister of agriculture.

Butter.—"Genuine butter" (pure in the ordinary sense of the word) is defined as "the mixture of glycerines (fatty matters) which are obtained by the churning of pure milk or of the cream extracted from pure milk, acidified by lactic ferments."

Cheese.—"Pure cheese" is the product obtained by coagulation, by pressure or by lactic fermentation, of the caseine of milk mixed with a variable quantity of fatty matter extracted from milk exclusively.

Eggs.—"Fresh eggs" are only those which by "mirage" (or looking through) show no loss of water and no trace of decomposition.

PURE-FOOD LAW OPERATIONS.

FRENCH EXPORTS TO UNITED STATES ARE AIDED BY IT.

Consul D. I. Murphy reports that so far as the records of the Bordeaux consulate disclose, there has been no diminution in the export of French foods and food products to the United States, consequent upon the enforcement of the pure-food law. On the contrary, the declared values of exports of such products during the first year of its operation actually increased. The consul's details of this trade follow:

As its exports to the United States consist chiefly of wines, oils, preserved fruits, vegetables, and fish and other foods, Bordeaux would naturally be one of the first places to feel the effects of changed conditions under which such products are permitted entry.

Many inquiries are made here as to the effect of the law on Bordeaux's trade, and surprise and gratification have frequently been expressed as to the statistics. Of course for a time after the law became operative (January 1, 1907), there was some confusion in the minds of shippers as to its provisions and some disturbance of trade, but the result has been on the whole beneficial.

The following table, showing declared values of foods exported from Bordeaux to the United States in 1906, compared with 1907, may be of interest:

Articles.	1906.	1907.	Increase.
Alimentary paste (macaroni, etc.)	$636,147	$682,936	$46,789
Jams and jellies	13,710	33,631	19,921
Olive oil	288,812	352,563	63,753
Preserved fruits	150,095	184,803	34,708
Preserved vegetables	172,976	228,108	55,132
Still wines	636,147	682,936	46,789
Sparkling wines	34,049	39,958	5,909

Other articles classed as foods show decreased exportation, but the decrease in almost every item may be properly accounted for without reference to the pure-food law. Exports of brandy, for instance, fell off in 1907 as compared with 1906 to the amount $11,285, but the records show a much greater falling off in 1906 compared with 1905—no less, indeed, than $106,515. The decrease in preserved fish, which was considerable, was due solely to the practical failure of the sardine fisheries, the packers here having been utterly unable to supply a hundredth part of their American orders. Exports of fungi fell off in 1906 to the amount of $61,417, as compared with 1905, while in 1907 the decrease was but $25,842, compared with 1906.

As for liqueurs, with slightly decreased export in 1907, the falling off is due to the provision of the pure-food law forbidding the use of certain coloring matters, and the difficulty the manufacturers have found in finding proper substitutes.

Considering the financial depression of 1907, the showing seems rather remarkable. It leads to the belief that instead of hampering trade, the pure-food law has benefited it, and it seems to have carried with it a greater respect for foreign labels.

INDUSTRIES.

CONDITIONS AND PRODUCTS.

CHINA.

OPENING FOR AMERICAN TRADE AND CAPITAL IN SHANTUNG PROVINCE.

The following report on the industrial conditions prevailing in Shantung, and the opportunities offering for American capital and trade in that part of China, is furnished by Deputy Consul-General Alvin W. Gilbert, of Chefoo:

Roughly speaking all of Shantung Province east of the intersection of the Hwang River and the Grand Canal is checkered with mines bearing one or more of the following minerals:

Gold, silver, quicksilver, mica, copper, gypsum, lime, glass silicates, basalt, iron, lead, diamonds, and mercury, while clay from which sun-dried bricks are made, building stone, sand, and millstone granite abound. The richest mineral section of the province is that south of the Tsingtau-Tsinan-fu Railway. Comparatively little of this area is being worked. The Germans have a large plant at Fangtze (10 miles south of Weihsien), are working coal at Poshan and vicinity, and have scratched the soil at various other good places.

COMMERCIAL, MINING, AND INDUSTRIAL OPENINGS.

While recently conversing with a progressive Chinese official about commercial enterprises in general, he suggested that an American syndicate should first develop a certain gold mine in which it was interested, and if that were successfully done he thought there would be no difficulty in extending American enterprises in this province. This mine is in close proximity to the proposed Chefoo-Weihsien Railway and has been intermittently, but successfully, worked by the Chinese.

The magistrate at Ichowfu is now trying to form a company for the exploitation of the coal and iron mines in his district with the intention of constructing the railway thereto. The new port, Haichow, in northern Kiang Su, is being developed by the Chinese. The water is too shallow for large steamers, but they are planning to form a lighterage company which would give the port equal facilities with Tientsin.

There is at present a wealthy Chinese family at Tsingchowfu making inquiries as to where they can purchase the best cotton gins, looms, etc., as they wish to establish a large plant. The gins must be so constructed as to handle the small-sized cotton seed which is peculiar to China.

The silk industry (cocoon raising) in the Ichowfu Prefecture is entirely undeveloped, and it is thought that a filature at Ichowfu might be made profitable. Inasmuch as this is virgin territory it

would seem that this is the opportunity to make a right beginning profitable from the first. The Shantung cocoons are of a superior quality to those sent over from Manchuria, but are not of sufficient quantity to effectively influence the market. Suitable supervision would doubtless enlarge this industry.

IRRIGATION AND FARM MACHINERY.

Irrigation is as essential a part of farming in this province as is cultivating the growing crop, for without it crops would be impossible. The present method of irrigation is for the most part by hand; in some places a blindfolded donkey works a turbinal pump. The following methods are workable—others may be better: Windmills rented to farmers too poor to buy, or sold outright for cash or on the installment plan; stationary engines, which would be more practical because of their lifting power.

Where well water can not be obtained in sufficient quantity these power plants could be stationed on the banks of various streams, the Hwang River, and the Grand Canal, whence, by means of a series of reservoirs or tanks, vast areas could be watered.

Scientific irrigation has yet to be introduced in China, and it seems reasonable to believe that if an enterprising corporation should obtain permission to install a sample plant on the lines suggested the advertising thus given would alone repay for the outlay, and a nominal water tax would doubtless more than pay running expenses.

Modern farming methods must win their way in China, through the illustrative method. The Chinese prefer to see the successful working of foreign farm machinery, and then some way must be conceived of enabling the farmer to obtain the implements, as he is usually a poor man. A model farm under foreign supervision might open a way.

RAILWAY AND COACH SERVICE.

The promotion of the governor has somewhat delayed negotiations for the Chefoo-Weihsien Railway, which has been under consideration for the past two years. The local merchants have formed a committee of 20 firms, each one of whom agrees to put up $25,000 to begin the line, building as far as Hwanghsien first and then agreeing to raise enough more to extend on to either Weihsien or Tsingchowfu. On the other hand, the original concessionaire is pressing his negotiations to a conclusion. The local merchants declare it to be immaterial to them who builds the road, but they must have it. The plan now advanced, and with which they agree, is one similar to that of the Taitsao railway now under construction in the southern part of Shantung, viz: Five-dollar shares, 60 per cent of which must be in Chinese hands, and the road to be entirely constructed and controlled by the Chinese.

As a further indication of the determination of the local merchants (large and small) to have some modern mode of transit and conveyance connecting them with the interior, the Chefoo-Weihsien Transfer Company is now circulating its advertising matter and blank share forms. They intend to have the stock fully subscribed and then request the governor, through the Taot'ai, for permission to go ahead. They will have 400 shares of $5 gold each, and intend to establish a foreign stagecoach service between Chefoo and Weihsien, running two coaches daily between Chefoo and Hwanghsien, and

later putting on an automobile which will make the journey in one day, instead of the six days under present conditions.

[A map of Shantung Province, forwarded by the deputy consul-general, may be seen at the Bureau of Manufactures.]

TURKEY.

IMPORTANT FRANCHISES OBTAINABLE BY AMERICAN CAPITALISTS.

Consul-General Edward H. Ozmun, writing from Constantinople, tells of opportunities presented to American financial and electrical machinery interests in Turkey:

In the annual report of this office for the year 1907 attention was called to the necessity of the establishment of an American bank in Constantinople with a view of interesting American capital in concessions granted by the Turkish Government for important industrial undertakings, such as railways, mines, electric traction and lighting, and harbor works, all of which would eventually be a natural medium for introducing American plants and machinery. With this object in view, the attention of capitalists is invited to the following two projects, and will be pleased to put interested parties or syndicates in touch with an intermediary from whom they could obtain information in regard to the conditions of these concessions.

ELECTRIC LIGHTING AND TRACTION FOR ALEPPO AND BROUSSA.

The firman, convention, and "cahier de charges" for this scheme covers also telephone and motor-car service and the monopoly for the sale of electric appliances for installation of electric lighting, etc., in private houses. This matter has been thoroughly examined by a Belgian engineer for account of a Belgian group of capitalists who were willing to take up the concession, but could not come to terms on the remuneration to be given. A concessionaire is always carried away with the idea that he has discovered a gold mine and will sometimes expect to receive ten times its commercial value.

The terms of the convention and cahier de charges are considered to be perfect, and all documents, including plan and engineer's report are at the disposal of anyone wishing to study the same.

The city of Aleppo has an estimated population of 197,000 inhabitants. It is the center of transit of certain exports from Asia Minor, Mesopotamia, Arabia, and Persia, and is in a rich mineral district. There are copper mines, coal, and green marble quarries in the neighborhood of the city. The whole province is very fertile, and with the completion of the present railway system, which is the most important work which has been undertaken for years, a large market will be opened for European produce and will contribute very largely to the export trade of the country.

The Broussa concession covers the right to use water power in the carrying out this plan. The convention and cahier de charges are said to contain certain articles which would not be acceptable to any group, but the concessionnaire could have these modified. These documents are also at the disposal of interested parties. The city of Broussa is situated at the foot of Mount Olympus to the north, was the ancient capital of Turkey, and is the seat of a governor-general. It has an estimated population of 120,000, and is noted for its iron

and sulphur baths, which are much patronized and a source of attraction from the whole Empire.

The principal industry of Broussa is silk, which is world-renowned. It is also an important olive-growing district, produces an excellent light wine, which is an article of export. Broussa, besides a small narrow-gage railway from the seacoast, has a fine carriage road from Moudania extending through the town, and is also connected by carriage road with other cities of the province. Broussa is about seven hours distant from Constantinople—five hours by steamer to Moudania and two hours thence by rail.

SAKHALIN ISLAND.

SETTLEMENT AND DEVELOPMENT PUSHED BY JAPANESE GOVERNMENT.

Ambassador T. J. O'Brien, at Tokyo, forwards the following translation by Student Interpreter A. A. Williamson on the conditions and resources of Sakhalin Island as viewed by a Japanese publication:

The resources of Sakhalin Island being of considerable moment, the following statements showing the results of the latest investigations will be found timely and interesting:

The fisheries, being one of the most important sources of wealth in Sakhalin, are carefully supervised by the Government and permits to fish over limited areas are issued. Last year 2,874 persons received permits and 3,460 vessels engaged in the business. The catch last year was valued at $2,847,000. The season begins in April. Cod were plentiful this year as usual.

The survey of land, in progress since 1905, having been accomplished, 10,913 divisions of 3,000 tsubo (1 tsubo = 3.9538 square yards) each have been made. One settler receives a loan of 22,500 tsubo, besides necessary seeds and domestic animals. In 1906 and 1907, 800 families emigrated to Sakhalin, and at present many more are emigrating thither. In 1906-7 the crops were poor, owing to bad weather and a late distribution of seed. Cereals and tubers thrived best; in some places the yield exceeded that of an equal amount of land in Japan proper in both quantity and quality. As there was plenty of time for a proper distribution of seed this year, better crops are expected.

The pasturage of Sakhalin makes it well suited to cattle raising. During Russian occupation the area of grazing land increased considerbly. Since 1906 an experimental station has been established at Soroiyofuka, from which seeds and animals are distributed and at which place cattle, horses, hogs, sheep, and goats are bred. These are loaned to settlers to help develop the country. There are now 1,292 head of cattle, 1,492 head of horses, and 989 hogs.

Minerals are sure to be a source of considerable wealth. So far there are only two sections in the eastern part of the island open for prospecting, but coal and gold dust are found in considerable quantities throughout the whole island.

Examination has brought to light considerable iron-sulphate and oil-bearing strata. A more minute inspection will be made by the Government.

The forests of Sakhalin cover 3,000,000 chobu of 3,000 tsubo each. The investigation of 1906-7 showed a total of 12,461,790,000 feet of evergreen and 21,500,000 feet of broadleaf suitable for export. Investigation as to the best method of cutting is now being made.

UNITED KINGDOM.

SERIOUS DEPRESSION IN THE SHIPBUILDING AND IRON INDUSTRIES.

Consul-General Robert J. Wynne reports that the London Daily Mail of July 29 publishes the following in regard to the British shipbuilding and iron industries:

Britain to-day has more money than work. Redundant capital lies idle or at the unproductive interest of 1 per cent. Redundant labor is idle at the season when employment should be at its best. The distress is most marked in the shipbuilding and iron industries. Unremunerative freights account for fourteen more vessels being laid up in the Tyne last week, making the total ninety-four, of 300,000 tonnage. In shipbuilding only 35,000 are employed, compared with 45,000 last year.

Mr. Thackeray, president of the North of England Iron and Steel Trades Conciliation Board, declared that he could not remember trade so bad for forty years, except in 1886. Their membership had fallen by a thousand. The Mersey docks are full of laid-up vessels, and there are thousands of sailors without ships, while 500 ships' officers are walking the streets instead of the normal 50 or 60 out of employment. From 6,000 to 7,000 deck hands are without work. The men in hundreds may be seen sleeping out every night.

The Glasgow distress committee estimate that next winter 6,000 heads of families will require providing for, but funds are exhausted. Eight shipyards are without work. Shipbuilders trace the "slump" to the abnormal cost of production and the shrinkage in freights.

In Manchester the engineering and shipbuilding trades are in a very bad state. The workless number 15,000. The boiler-makers' trade union reports about 10,000, or 20 per cent unemployed, mainly due to the shipbuilding trade depression, intensified by the engineering dispute on the northeast cost of England. The prospect for the immediate future is very bad, as members largely depend upon the shipbuilding trade.

ARGENTINA.

GREAT DEVELOPMENT OF THE WINE INDUSTRY IN MENDOZA.

Consul-General Alban G. Snyder, of Buenos Aires, furnishes the following information concerning the wine industry of Mendoza, in Argentina:

The message of the governor to the legislature of Mendoza states that the progress of the wine industry of that Argentine Province has been remarkable. Twenty years ago the production of wine in the province amounted to only 13,250,000 gallons, while the production this year amounts to 50,850,000 gallons, valued at $11,676,000 gold. The grapes were grown on 4,266,000 acres, valued at $41,000,000 gold, and the wine storehouses of the province were valued at $12,525,000. More than one-half the revenue of the province is derived from the tax on wine.

The province has sold 6,602,410 acres of its public land, for which it realized $1,101,200 gold, and $1,653,180 in bills. It has still 5,020,956 acres of public lands unsold.

BERMUDA.

BUSINESS INTERESTS SERIOUSLY AFFECTED BY LATE CROPS.

Consul W. Maxwell Greene makes the following report from Hamilton on the business conditions in Bermuda:

The failure of the sale in the past season's crop of onions and vegetables, caused by late delivery and the immense output from Texas, has proved most disastrous for many dealers in the island who had made advances on crops to the planters, who themselves have been nearly ruined, and in many cases absolutely. This has alarmed many firms in New York, with whom this trade centers. Bermuda busi-

ness interests have enjoyed a high reputation for commercial honor, and have passed through epochs of hard times before without losing standing, therefore it is believed that such will be the eventual result now. No failures or suspensions have so far been reported. Imports will be restricted, except by those firms that cater to the winter visitors.

FRENCH INDO CHINA.

PAPER-MAKING ENTERPRISE IN COLONY OF TONKIN.

Vice-Consul-General George E. Chamberlin reports from Singapore that plans have just been matured in France for starting paper mills on a large scale in Tonkin. Many influential paper makers in France are interested in the scheme, and capital for the purpose is readily available. Owing to the great scarcity of materials for paper making in France the attention of the manufacturers are now turned to Tonkin and Cochin-China, where there is a large amount of suitable materials, such as bamboo fiber, rice straw, etc. The Tonkinese make very fine and strong paper out of this straw, and bamboo fiber is manufactured into a serviceable article. It is stated that these facts tell heavily in favor of the enterprise.

PICTURE POST CARDS.

OVERPRODUCTION CAUSES A CRISIS IN MANUFACTURE AND SALE.

Vice-Consul James L. A. Burrell, writing from Magdeburg, gives the following account of the present serious depression in the picture-post-card business in Germany and elsewhere:

The crisis in the picture-post-card business is here ascribed to the fact that the "boom" in this business developed later in the United States than in England and on the Continent, which led to heavy speculation on the part of the dealers, who piled up an enormous stock, keeping busy not only the presses in the United States, but also those in England and on the Continent, particularly in Germany. In the latter part of 1907, however, although a falling off in the demand on the part of the American public was not noticeable, came a catastrophe; the dealers, who could not afford to hold their large supplies, were obliged to get rid of them at any price. The European post-card industry lost heavily, sometimes as much as $20,000 to $25,000 on a single customer. Part of the supply which was unsalable in America, as well as the continental overproduction, came into the English market, and to this cause a well-known English firm attributes the decrease in their sales.

The value of post cards exported from the Magdeburg consular district to the United States during the six months ended June 30, 1908, was $21,078, and for the same period in 1907 was $26,130. According to the Statistisches Jahrbuch für das Deutsche Reich, the value of picture post cards exported from Germany to the United States during 1907 was 13,190,000 marks ($3,139,220), as opposed to 4,080,000 marks ($971,040) in 1906. The total value of the post-card export of Germany to all countries is given as 25,835,000 marks ($6,148,730) for 1907, and as 11,628,000 marks ($2,767,464) for 1906.

CENSUS OF BRITISH PRODUCTION.

STATISTICS OF THE VOLUME AND VALUE OF THE HOME TRADE.

Consul Albert Halstead, of Birmingham, reports as follows concerning the census of British production now being taken by the Government:

Manufacturers in the Birmingham district are now receiving schedules from the British Board of Trade in connection with the census of production for the year 1907, which is now being taken for the British Government. The purpose of this census is to secure accurate information and a fuller knowledge of the volume and value of home trade, which information it is evident will be of the greatest value. The particular Birmingham industries in regard to which statistics are requested are those connected with the brass, leather, engineering and electrical engineering trades. For the information of Americans it is desirable to state that the word "engineering" as used in the United Kingdom refers to all kinds of machinery, including automobiles, gas engines, locomotive engines, lathes, railway cars, etc.

The following are the questions asked of the manufacturers (in this case brass founders and manufacturers):

(1) Main line of business carried on by the establishment; (2) year of return; (3) output in the year of return, showing value of work done and cost of labor and materials expended on construction and repair work executed by firm's work people on their own buildings, machinery, and plant; (4) the estimated aggregate cost of purchased materials and stores used in the year of return; (5) the estimated aggregate amount payable to other firms for work given to them the value of which is included under output in answer to question 3; (6) number of persons employed in year of return; (7) days worked in the year of return; (8) (a) capacity of engines owned, (b) amount of electricity used in year of return, and voluntary information; (9) fuel consumed in year of return.

GUARDING TRADE SECRETS.

This census is being taken under the census act, which requires the Board of Trade "to have due regard to the circumstances of various trades and industries and in particular to the importance of avoiding the disclosure in any return of any trade secret, or of trading profits, or of any other information the disclosure of which would be likely to tend to the prejudice of the person making the return."

The British manufacturer is generally averse to furnishing information in regard to his business, being apprehensive lest trade secrets may be discovered. This apprehension was one of the objections raised by manufacturers. The greatest care has been taken, however, to prevent the discovery by the public of trade secrets, and no particulars as to any individual establishment are to be disclosed. The law imposes a penalty of two years' imprisonment with or without hard labor, or a fine, or both fine and imprisonment, upon any person who improperly discloses the information thus obtained. In order to more surely protect individual firms from the disclosure of their private business the first leaf of the schedule, which is the only one on which the name of the firm will appear, has been perforated, and as soon as the schedule is returned to the board of trade this leaf is to be detached by a responsible officer, and the other pages only,

which contain no indication as to the source of information, will be dealt with by the clerk engaged in the work of compilation.

In view of possible technical difficulties and trade peculiarities the Board of Trade has established advisory committees for consultation in the preparation of the trade schedule and the instructions for filling it up. In consequence the results of the census should be exceedingly accurate and show the amount of the whole production of the industries of Great Britain for the year. After the next census and later ones have been taken the census returns will be of the greatest use for comparative purposes in showing the course of trade.

PUBLIC UTILITIES IN GERMANY.

THEIR MUNICIPAL MANAGEMENT IS EXTENDING IN LEADING CITIES.

Consul Thomas H. Norton, of Chemnitz, states that a recent statistical summary of the extent to which public utilities are now under the direct management of German municipalities shows that the movement is constantly gaining in momentum and that the field of activity is steadily being broadened. The consul's review continues:

There are now 58 cities in the Empire containing over 50,000 inhabitants. In these cities the leading utilities are owned and conducted by the municipalities to the following extent:

Public utilities.	Number of cities.	Public utilities.	Number of cities.
Gas works	44	Street railroads	10
Electric power plant	38	Removal of garbage and sewage	56
Waterworks	43	Market halls	16
Abattoirs	47	Tenement houses (chiefly for municipal employees and laborers)	22
Bath houses	42		

In regard to financial results the gas works make the best showing. Their total profits amount annually to $10,100,000. Of this sum about $2,500,000 is required for interest on the investment. Electrical works show a profit of $4,200,000, of which $1,300,000 is expended for interest. Waterworks return on an average 8.5 per cent of the capital invested. Market halls and tenements yield but little profit.

The entire capital invested by German municipalities in plants for public utilities is now estimated at nearly $1,000,000,000. The value of forests and meadows, as well as the capital of municipal banks and loaning organizations, is not included in this total.

While so much activity in this field is developed by the German cities, there is but little evidence of a tendency to invade indiscriminately the economic territory of general industrial competition. Municipal control is established when there is simply the choice between a public and a private monopoly, as in the case of gas, water, electricity, etc., or else when the desirability of a utility is unquestioned, but the uncertainty as to profitable returns fails to attract private capital. There is but little probability that German municipal enterprise will step outside these limitations.

The telegraph and telephone in Germany are owned and managed by the Imperial Government, and most of the railway lines are the property of the different States.

SUGAR PRODUCTION.

MEXICO.

EXCELLENT NATURAL CONDITIONS ARE AIDED BY CHEAP LABOR.

Consul P. Merrill Griffith, of Tampico, submits the following report on land values in Mexico, and the cost of planting, cultivating, and harvesting the cane crop:

One of the leading industries of Mexico, and one that has advanced most rapidly during the last five years, through the introduction of improved agricultural and milling machinery and the adoption of more scientific methods in the cultivation of the cane, is the production of sugar.

There is an excellent demand in Mexico for all sugar produced, and all grades find a ready sale at good prices. A few years ago the demand among the Mexicans of the middle and lower classes was for brown sugar exclusively; now they demand also granulated or white sugar manufactured into pilons.

The amount of sugar produced depends upon the character of the soil and the location of the land. In this section the yield averages from 25 to 40 tons of cane to the acre. The saccharine matter from this quantity of cane amounts to about 65 per cent of the weight, and the quantity of white centrifugal sugar produced from 7½ to 10 per cent, or from 130 to 150 pounds of sugar to the ton.

The cane raised in this section of Mexico, in comparison with that raised in most sections of the United States, has a higher Baumé, usually running from 9 to 15, and the sucrose contents in proportion. The stalks grow from 13 to 15 feet high, have from 32 to 36 joints, and often measure from 7 to 8 inches in circumference at the bottom. It has been stated by persons of practical experience that sugar can be produced here for less than 1 cent gold per pound, which enables it to compete successfully in almost any market of the world.

The following table, in kilos of 2.2 pounds, shows the production of sugar and molasses of the different States of Mexico during the year 1907. [For the purpose of comparison the corresponding figures for 1906 have been included.—B. of M.]:

States.	Molasses.		Sugar.	
	1907.	1906.	1907.	1906.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*
Campeche	858,125	654,000	1,445,549	542,000
Chiapas	683,700	622,000	732,300	372,000
Colima	775,000	1,330,000	1,597,243	1,740,000
Guerrero	2,951,400	2,652,000	2,889,450	2,096,000
Jalisco	6,388,000	6,448,000	6,304,300	6,196,000
Mexico	673,816	747,000	189,863	158,000
Michoacan	5,054,039	13,675,000	7,492,809	6,650,000
Morelos	18,578,684	21,257,000	42,229,727	35,662,000
Nuevo Leon	300,000	350,000	924,000	914,000
Oaxaca	2,273,911	2,134,000	1,682,320	1,417,000
Puebla	6,157,000	6,037,000	16,739,000	6,549,000
San Luis Potosi	3,769,320	3,594,000	1,268,000	1,925,000
Sinaloa	3,900,000	3,860,000	8 785,000	8,540,000
Tabasco	1,129,000	1,065,000	2,005,000	1,967,000
Tamaulipas	1,538,500	1,529,000	1,578,000	1,694,000
Tepic	1,125,000	2,000,000	3,250,000	2,500,000
Veracruz	9,688,824	9,312,000	18,690,000	16,297,000
Yucatan	2,484,500	2,130,000	1,694,000	1,241,000
Total	68,328,819	79,396,000	119,496,561	96,460,000

ROUMANIA.

FACTORIES PRODUCE SUGAR ONLY FOR HOME CONSUMPTION.

Consul-General Norman Hutchinson, of Bucharest, submits the following report on the beet-sugar industry in Roumania, where the factories, by mutual agreement, limit the output:

Up to the year 1895 there were only two factories in Roumania for the production of beet sugar. About 1896 the Roumanian government offered certain inducements for the attraction of foreign capital, in consequence of which four new factories were built. Their production was so much in excess of what the needs of the country called for that the Government withdrew its bounty of 16 centimes (a little over 3 cents) per kilo (2.2 pounds) on refined sugar exported. The beet-sugar manufacturers then decided to limit their production, and to this end formed a combine in order to determine how much each factory should sell in the country.

The actual amount of beet sugar sold in Roumania, and on which bounty is paid, is about 65 per cent of what the working factories could produce. The system followed by the factories generally is to produce enough sugar each year to meet their contingents, any small amount left over being exported at a loss.

The sugar is manufactured in loaves of 5 and 3 kilos, cubes sold in boxes of 5, 25, and 50 kilograms, and granulated in sacks of 50 kilograms. Retail prices vary from 20 to 24 cents per kilo. Import duty is 7 cents per kilo and consumption tax 7 cents.

The number of hectares of beets for sugar under cultivation in Roumania in 1905 was 12,029; in 1906 it was 9,676, and in 1907, 6,639. The number of quintals per hectare averaged in 1905, 180; in 1906, 198, and in 1907, 164. (Quintal=220 pounds.) The total number of quintals realized for the year 1905 was 2,170,164; for 1906 it was 1,919,691, and for 1907 it was 1,091,561. The annual consumption of beet sugar in Roumania amounts to between 30,000 and 35,000 tons.

JAPANESE IN BRAZIL.

INAUGURATION OF THEIR COLONIZING IN SOUTH AMERICA.

Consul-General George E. Anderson, reporting from Rio de Janeiro, says that the first lot of Japanese immigrants under the arrangement concluded about nine months ago between the Japanese and Brazilian governments to arrive in Brazil was landed at Santos, for the State of São Paulo, on June 18. Mr. Anderson's details follow:

The party consisted of 781 persons and arrived in the Japanese ship Kasato Maru something less than six weeks out from Yokohama. Within two days all were distributed among the coffee plantations in the State of São Paulo, where they will work in coffee for the current crop. At the end of the coffee-picking season they will be distributed among several "nucleus colonies," or subsidized communities founded by the government of the State, and it is proposed to devote their labor practically exclusively to rice culture. Further shipments of immigrants are expected regularly until the total will reach well into the thousands under present contract arrangements.

It is worth while noting in this connection that the figures for immigration and emigration in the State of São Paulo of late years has been:

Years.	Arrivals.	Departures.
1907	31,681	36,269
1906	48,429	41,341
1905	47,817	34,819
1904	27,751	32,679
1903	18,161	36,410
In five years	173,839	181,518

The fact that in spite of expensive agencies for securing emigrants maintained by this and other Brazilian States in Europe there has been an actual loss of population from this source gives the coming of these Japanese immigrants more than passing importance.

JAPANESE COMPANY HAS EXTENSIVE PLANS.

Consul-General Henry B. Miller, of Yokohama, in writing on the same subject, says that the Japanese emigrants recently dispatched to Brazil are reported to have received a hearty welcome. The transportation company projects the formation of a South American Association with a very wide field of enterprise, the gist of which is the promotion of commercial, industrial, and social intercourse between Japan and the States of South America.

AID TO GERMAN WORKMEN.

LARGE VOLUNTARY PRIVATE AND EMPLOYERS' CONTRIBUTIONS.

Consul Carl Bailey Hurst, of Plauen, furnishes the following information concerning the voluntary contributions by private firms and individuals in aid of German workmen:

The extent of the efforts to assist the laboring classes in Germany may be gathered from figures that have recently appeared in the local press. In addition to the $714,000,000 that was paid according to law for workmen's insurance, sick funds, and the like in the two decades from 1885 to 1905, the German employers went beyond the legal requirements and provided all manner of philanthropic organizations for the benefit of their employees. Minor efforts are not taken into consideration here, which would be practically impossible to detail on account of their great number and diversity, but the larger classes of donations may be mentioned.

In the year 1898 over $6,426,000 was expended by employers in Germany for the direct aid of their employees; in 1900, about $14,399,000; in 1902, $19,873,000; in 1904, the pecuniary help dropped to about $17,347,000; but in 1905, the last year for which the statistics have been compiled, it rose to over $27,608,000. Not a third of the total, which amounted to $131,280,711 from 1898 to 1905, inclusive, was contributed by stock companies. More than two-thirds of this sum was given as voluntary contributions by private firms and individuals.

The chief items of the amount paid in 1905 were as follows: Pensions, $4,052,325; premiums and shares in profits, $2,596,730; general

improvement of workmen, not specified, $9,102,279; cooperative purposes, $533,241; homes for the aged, $861,996; aid to sick, wounded, and convalescent, $1,157,736; dwellings and lodgings, $2,275,562; educational purposes, $508,996; social and club purposes, $665,156; pecuniary help in general, $367,739.

BENEFICIARIES OF THE INSURANCE FUNDS.

Vice-Consul-General Charles A. Risdorf, of Frankfort, reports that at the commencement of this year (1908) the number of pensioners in the official insurance of the German Empire for invalids, old age, and sickness amounted to 978,960, of which 841,992 were invalid pensioners, 20,081 sick pensioners, and 116,887 old-age pensioners. The sum paid to pensioners in 1907 is estimated at 172,000,000 marks, and since the existence of the institution at 1,328,000,000 marks. In 1907 178,000,000 marks were paid in. The total assets amount to 1,398,000,000 marks. (Mark = 23.8 cents.)

CANADIAN CEMENT OUTPUT.

IMPORTANCE OF THE INDUSTRY IN THE PROVINCE OF ONTARIO.

Consul A. G. Seyfert, of Owen Sound, Ontario, furnishes the following statistics concerning cement in Canada:

One-half of all the cement manufactured in Canada is manufactured in the locality of Owen Sound, the daily output here being 3,000 barrels. The demand for concrete material for building the transcontinental railroad has increased the output to the full capacity of the plants during the past year. During 1907 Canada produced 2,500,000 barrels of Portland cement, and imported 1,000,000 barrels more, nearly all from the United States.

MINES AND MINERALS.

COAL INDUSTRY.

BELGIUM.

NEW COMPANIES ARE ACTIVE, BUT MEET WITH DISCOURAGEMENTS.

Consul H. Abert Johnson indicates that the work of opening up the new Belgian coal fields progresses slowly, writing from Liege as follows:

In reference to the opening up of the new coal mines of the Campine district in the Province of Limbourg, extensive beds of shifting sand have been encountered, which render the work of boring extremely difficult and expensive. One of the companies became so discouraged that it decided to abandon work at Asch, and transferred its operations to Waterscheyed.

In spite of these conditions, the purchasing of ground goes on as actively as ever. Another company has already acquired hundreds of hectares (1 hectare = 2.47 acres) in the valley of the Meuse. The syndicate of Liege capitalists has just bought 50 hectares at Genck and is negotiating for the purchase of an additional tract of 70 hectares at Op-Glabbeek. Another large company has purchased 50 hectares at Genck and an equal quantity of land at Sutendael.

Genck seems now to be the principal center of activity for these pioneer companies, and the purchasers of surface holdings are making every possible effort to hasten the necessary ratifications of their purchases. Notwithstanding these facts, the opening up of these coal fields seems seriously retarded, and some time will yet pass before the first coal from the Campine mines is found on the market.

BRITISH INDIA.

INCREASING NUMBER OF BENGAL COLLIERIES AND DECREASED LABOR.

From a paper prepared by the Government reviewing the Indian mines act in Bengal during the year 1907, Consul-General William H. Michael, of Calcutta, says that it appears that there has been an increase in the number of collieries, so much so that the district and medical officers are finding it very difficult to inspect all the mines. The consul-general further summarizes:

The Government is considering the question of the nature and amount of the inspection work to be required of these officers. The supply of labor is said to have fallen short of the demand, the prevalence of famine and the willingness of the mine owners to pay a higher rate of wages than what is earned by agricultural and other laborers notwithstanding.

As an inducement to the workmen, some of the companies, e. g., the East Indian Railway Company, have established benefit funds and schools for the education of the children of their laborers. Again, in certain districts the mine proprietors pay a full month's wages to laborers for twenty days' work or even less. Furthermore, during the past year the employers were so very particular about the health of the workmen that the number of deaths from epidemic diseases among the mining population was comparatively diminished. The East Indian Railway Company has set an example in this direction by offering rewards to their employees as an incentive to keep their dwellings neat and clean.

That, despite these many attractions, there is a dearth of labor is said to be due to the popular dislike of underground work. With regard to mining accidents, there was an increase in their number during the year under review, but it is explained that the increase is due to the larger number of mines working and the greater activity in the industry generally.

CANADA.

BORING TESTS FOR COAL IN PRINCE EDWARD ISLAND.

Although coal has been found in great quantities in the near-by Provinces of Nova Scotia and Cape Breton, and successfully mined for years, Consul Franklin D. Hale, of Charlottetown, says that none has been found in Prince Edward Island. He tells of the present movement to discover deposits there:

Geological study by scientific scholars has developed the theory that coal must be found here, but at what depth has hardly been suggested. Different places on the island have been named by geologists as the locations where it would probably be found at least depths, but no serious undertakings have ever been made along the line of its discovery. The Dominion Parliament, acting upon the urgent request of the inhabitants of the island, made through the lieutenant-governor, the premier, and their members in Parliament, has made a grant of $25,000 to be spent in explorations for coal on Prince Edward Island. Borings will be made at a number of different places to a depth of 2,500 feet, if satisfactory results are not obtained before.

It is expected that the work may be commenced this season, and will be under the direction of an expert agent of the department of mines. The islanders are very hopeful of the results. Should beds of coal be discovered at reasonable depths, there would be no difficulty in financing the enterprise of their development. The consumption of hard coal, which comes from the United States, is about 6,000 tons per annum; that of soft coal from Nova Scotia and Cape Breton is about 77,000 tons. The consumption of hard coal has nearly doubled in the last ten years. The retail price of hard coal on July 18 at the wharf was about $6 per short ton. Undoubtedly the prevailing opinion that soft coal for domestic purposes is cheaper than hard coal because of the difference in price is being overcome by practical experiment and use.

PETROLEUM DISCOVERIES.

MEXICO.

OIL FIELDS DEVELOPMENT IN VARIOUS PARTS OF REPUBLIC.

Consul William W. Canada, of Veracruz, reports that there has been great activity in different parts of Mexico in prospecting for and developing oil lands, and a number of American syndicates are said to have obtained options on extensive tracts of land in the States of Tamaulipas, Veracruz, and Chiapas. The consul continues:

A large number of deals have recently been closed, and the necessary drilling outfits have been brought from the United States. Test borings are taking place in every direction, and reports of new wells struck are of frequent occurrence.

The Huasteca Petroleum Company has been granted a very favorable concession for the exploitation of oil lands in the northeastern part of the State of Veracruz. Machinery, tankage, and supplies for this venture may come free of duty and are also exempt from federal taxation for a term of years. The company has a capital of $250,000 gold and is organized under the laws of Mexico. Arrangements are under way for the construction of a pipe line to Mexico City.

In the Pichucalco district, in the State of Chiapas, the Anglo-Mexican Oil Fields, Limited, is putting down a number of wells and is said to have struck a good flow of oil near El Chapapote at a depth of only several hundred feet. The same company is opening up a new field on the San Carlos hacienda, near El Caimbe.

CHILE.

BOTH OIL AND GAS FOUND—FURTHER BORINGS.

Consul Alfred A. Winslow sends from Valparaiso the report that petroleum and natural gas have been discovered in the township of Carelmapu, in the Province of Llanquihue, Chile, about 500 miles south of Valparaiso, to which he adds:

Enough gas pressure has been secured to run a cook stove, a heating stove, and two gas jets at one time. Soundings have been made to the depth of 500 feet with good results. Mr. Aurelio Fernandez Jara is the party interested in the present investigation. He proposes to put down a well to the depth of 3,000 feet in order to determine what may be expected. This discovery is made in the vicinity of a fairly rich gold-mining district, and not very far from the site of the extensive steel works being built near Corral.

COLOMBIA.

VALUABLE DEPOSITS OF BOTH COAL AND OIL.

Consul Isaac A. Manning, of Cartagena, advises that recent reports from the Colombian regions about the gulf of Uraba, between the rivers Atrato and Leon, bring the news that valuable coal deposits have been discovered there; also that a spring has been encoun-

tered which flows about a pint of crude petroleum per hour. Without doubt this is an extension of the coal and oil belt, heretofore known to exist, reaching from near Cartagena to the valley of the Sinu River.

QUARRYING IN BELGIUM.

ONE OF THE LEADING INDUSTRIES OF THE KINGDOM.

Consul H. Abert Johnson, of Liege, furnishes a comprehensive report concerning the quarrying industry of Belgium, from which the following is taken:

Belgium is rich in various kinds of stone and marble. The quarrying industry employs over 37,000 men, and its annual output exceeds $12,159,000. The most important quarries are in the provinces of Hainaut, Liege, and Namur, these furnishing seven-eighths of the total stone quarried in Belgium. The products produced are freestone, limestone, and paving stone. The bluestone is the best known, and is serviceable for building and ornamental sculpture, being, probably, the most important product of this class of quarries. The quarries of Soignies, Ecaussines, and Sprimont are the most noteworthy in this connection. These are provided with powerful modern machinery and employ a large number of workmen. They have also attached to the quarries apprentice workshops, where young workmen receive practical and theoretical training in stonecutting and sculpture.

MARBLES.

The quarries of Belgium furnish a great variety of marbles which stand rather high in the market. Of black marbles, there are three distinct groups, the first furnishing a marble much in demand, even outside of Belgium, which is used in the manufacture of clock cases and mosaics. The Noir fin de Golzinnes is valued on account of its purity, the high polish it is capable of receiving, and its adaptability to the carver's chisel. The second group produces a marble that is soft and easily carved, and the third is a deep black, close-grained stone, serviceable for flooring slabs, plinths, window facings, and fireplaces.

There are many varieties of red marbles, which are used mainly in large work, such as altars, columns, fireplaces, and window sills. Blue marble, so called, is used generally for decorative work and paving. The "florence lilas" is very much in demand in England.

The marbles most used in Belgium are the Sainte-Anne blue, the red mottled, the Belgian black, and the "granit." The blocks are often shipped in the rough, but it is more customary to finish them at the quarries, the workmen enjoying a reputation of being especially skillful in this class of work.

PAVING STONE AND SLATE.

The production of porphyry paving-stone blocks, sandstone, and calcareous stone is second in importance in Belgium. The syndicate which runs the porphyry quarries employs 3,000 workmen and operates high-power machinery—5 crushing machines, 7 pumping machines, 11 extracting machines, 10 locomotives, a conveyor, and 2 electrical plants. The quantities produced annually are 28,000,000 paving blocks, 430,000 tons of stone for macadamized roads, and

390,000 tons of other products. The Belgium block is largely in demand because of its "indestructibility," its only defect being the tendency to acquire a high polish from long use. The material from these quarries is largely used in England for macadamizing roads. The sandstone paving blocks, which have a fine appearance and are highly resistant, are also in great demand.

The slate quarries of Ambleve have been exploited from time immemorial as material for razor hones, which figure among the exports from this consulate to the United States. The stones are cut in parallelopipeds, the under side of which is composed of slate, while the upper surface consists of the sharpening stone. The slate is exported chiefly to Germany and the Grand Duchy of Luxemburg.

LIMESTONE, PHOSPHATE OF LIME, POTTER'S CLAY, CHALK, AND KAOLIN.

Limestone is found generally distributed throughout the country. Limekilns are plentiful and are confined to no particular locality, although those of the Provinces of Hainault, Namur, and Liege are those only worthy of being mentioned as industrial enterprises. Phosphate of lime is found chiefly in the neighborhood of Mons and Hesbaye. Notwithstanding the fact that the production and use of phosphate is now very large, the industry in Belgium seems to be on the decline, the chief reasons for which is the production of this mineral in the United States, France, Algiers, and Tunis and the substitution therefor of chemical fertilizers, notably the scoria dephosphorization, largely supplied by the many steel works of Belgium.

Potter's clay is found generally distributed throughout the country. That found on the Rupel and in the neighborhood of Courtrai being used in the manufacture of tiles, drainage pipes, paving blocks, and bricks.

Chalk is extracted in large quantities at St. Vaast, Trivieres, etc. The Nouvelle chalk is in much demand, on account of its purity, for the manufacture of whiting (blanc d'Espagne).

Kaolin is found at Gembloux and Malonne, in the Province of Namur.

PHOSPHATE IN SOUTH SEAS.

LARGEST KNOWN DEPOSITS OF HIGH-GRADE FERTILIZER.

Consul Julius D. Dreher, of Tahiti, furnishes the following information concerning the phosphate deposits in the islands of the South seas:

The islands of the Pacific Ocean contain the largest known deposits of high-grade phosphates. A London company controls the deposits in Ocean and Pleasant islands, in the Gilbert group. The deposits on these islands are estimated at 50,000,000 tons, of which scarcely a million tons have been marketed. By the employment of a large number of Chinese, Japanese, and natives the company is now marketing 250,000 to 300,000 tons a year, of which 100,000 tons go to Japan, 80,000 to Australia, and the remainder to Europe. Europe also receives yearly 100,000 tons of high-grade prosphates from Christmas Island and more than 1,000,000 tons of lower grade phosphates from Tunis and Algeria.

Notwithstanding the very large deposits owned by the London company, the mining of phosphates pays so well that not only that company but various other investors have been and are making con-

stant efforts to discover other phosphate deposits, and in many islands deposits, small in quantity and poor in quality, have been discovered, as in the Fijis. Recently, however, phosphate of good quality has been discovered on three islands in the French colony of Tahiti and dependencies. These islands, Makatea, Matahiva, and Niau, lie in the northwestern part of the Tuamotu Archipelago of 80 atoll islands. It is also probable that deposits exist on other islands of this group. The deposits in Matahiva and Niau are small, but the high-grade deposits in Makatea are estimated at 10,000,000 tons, with many million more tons of an inferior quality. The quality of this deposit ranges from 73 to 80 per cent. The island has an elevation of 230 feet—the highest of the group—and an area of 6 to 8 square miles. Although many others are interested in these deposits, they will be worked by a French company just formed in Paris for that purpose. As Makatea is surrounded by coral reefs and has no harbor, the phosphate will have to be loaded at deep-sea moorings outside the reefs. On account of the expense incident thereto, it will be some time before the company can make any considerable shipments, but in the course of a few years it is considered that the capacity of the works will be 200,000 tons per annum.

As Makatea is so near Papeete, the commercial center of this colony, the working of the phosphate deposits on that island will add largely to the business and prosperity of the colony. [The address of the proper person with whom the American manufacturers of machinery should correspond in this connection can be secured in the Bureau of Manufactures.]

ISLAND OF ANGAUR.

NEW SOURCE OF PHOSPHATES IN GERMAN POSSESSION.

Consul Thomas H. Norton, writing from Chemnitz, gives the following account of the progress of German exploitation of phosphate deposits in the Pacific:

Agricultural interests are constantly on the watch for new deposits of mineral fertilizers, potash salts, nitrates, and phosphates. An important new source of the last mentioned has been found on the island of Angaur, to the west of the Caroline Islands and about 600 miles east of the Philippine island of Mindanao. This island, which has an area of about 4 square miles, is under German rule, and the exploitation of its natural wealth has been undertaken by a Bremen stock company. Preliminary explorations, showing the value of the deposits, were conducted by an organization seeking to discover new sources of the valuable material in the Pacific possessions of the German Empire.

The island is of coral origin and has been lifted above the sea level to such an extent that a portion of it, forming a hilly range, is over 150 feet high. In the center of the island is an extensive deposit of calcium phosphate of varying thickness. Chemical analysis shows it to be unusually free from foreign matters and to yield a high percentage of tribasic phosphate, so that it is especially well adapted for the manufacture of superphosphate.

Like the guano islands of the rainless regions near the American coasts, Angaur has been for ages a favorite resort of sea fowl. Their excrement accumulated in vast quantities, but was not preserved unchanged, as in the case of the guano islands. The heavy rains of

this section of the Pacific caused a steady leaching of the soluble phosphates, which, coming in contact with the porous coral growth beneath of pure calcium carbonate, gradually changed it into calcium phosphate.

DEPOSITS IN OTHER ISLANDS—GERMAN IMPORTS.

Similar deposits, formed in an analagous manner, have been discovered on Ocean Island and Pleasant Island, in Micronesia, and it is highly probable that other occurrences of phosphates will be found among the many coral islands of the Pacific.

The mineral secured on Angaur island will be supplied to German superphosphate factories. The only notable German deposits of phosphorite—the Lahn phosphorite—are in Nassau, and are now practically exhausted. A certain amount of phosphatic fertilizers is made from the Thomas slag obtained in the smelting of phosphatic iron ore. Most of Germany's superphosphate is now made from imported phosphorite, apatite, coprolite, navassite, etc. These imports amounted in 1907 to 579,505 metric tons (638,615 short tons). As the United States supplied over one-half of the quantity—305,128 metric tons—the development of phosphatic deposits in the German insular possessions is of special interest to the exporters of South Carolina and Florida phosphates. Algeria is at present the chief rival of the United States for the German market, furnishing 123,723 metric tons. Australasia comes next with 43,780 tons.

Germany imported in 1907 62,877 metric tons of superphosphates, and exported 115,049 tons. Her imports of ground Thomas slag were 164,364 tons, and her exports 399,193 tons.

THE CULLINAN DIAMOND.

THE WORK OF POLISHING BEING SUCCESSFULLY PROSECUTED.

Consul Henry H. Morgan, of Amsterdam, furnishes the following information concerning the polishing of the great Cullinan diamond in that city:

As the work of polishing progresses to completion great interest attaches to the Cullinan diamond, although several months will elapse before it will be completely finished. There has been a great deal of secrecy connected with the polishing of this stone, but I have been able to obtain certain facts in connection therewith which may be of general interest.

The delicacy of the work undertaken by the polishers in the execution of this work can not be realized. It was necessary in the first instance to cleave the stone in three pieces in order to remove two very bad flaws therein. This cleaving is done by first making an incision into the stone with a diamond-cutting saw at the point where it is to be cleaved and following the grain (as all diamonds have a grain as wood has) to a depth of one-half to three-quarters of an inch. Before this cleaving operation was undertaken crystal models were made and cleaved, in order to ascertain, as far as could be known, just what would happen when the same process was applied to the real stone.

METHOD OF HANDLING.

After the incision was made the cleaver inserted into the slit a specially constructed knife blade made of the finest steel, and then

with a thick steel rod struck it a hard blow and cut the stone in twain exactly at the point where it was proposed it should be cut. It was an exceedingly well-executed piece of work. It must not be overlooked that the cleaving of a diamond is not always done along the line it is intended, and it not infrequently happens that in cleaving a stone it flies into a great number of pieces.

The stone having been successfully split, the next and final operation is the polishing thereof, and this process is now being carried on.

To give an idea of the hardness of diamonds it may be interesting to state that the disk on which this diamond is being polished, which is made of cast iron and steel, revolves at a rate of 2,400 revolutions per minute. The diamond is pressed down on this disk, which is liberally supplied with a mixture of diamond dust and oil, by weights of 15 to 25 pounds, and the disk will constantly turn from 7 a. m. to 9 p. m., including Sundays, for ten to eleven months before the polishing operation will be completed.

It has not yet been positively decided in what shape the stone will be finished, but the general impression is that it will be pear-shaped. It will be, when polished, many times larger than the Excelsior, which was, up to the discovery of the Cullinan, the largest diamond in the world. The Cullinan weighed in its rough state 3,027 carats. The part of the stone which is on the mill will possibly be given 58 facets, which is the number given to all other diamonds of whatever size, and it will weigh, when finished, between 500 and 600 carats.

The actual commercial value of the completed stone will be about $2,500,000, but its unique character will possibly make it priceless.

When the Cullinan was found about three years ago it was a problem of the Premier Company as to what disposition could be made of it. Its mere size, weighing as it did something over 1½ pounds, made it unmarketable and unsalable, and to cut it up into small pieces would destroy, to a large extent, not only its intrinsic but its sentimental value. The diamond hence remained in the vaults of the Premier Company for nearly three years, when it was decided by the Transvaal Government to present it to the King of England on the anniversary of his sixty-sixth birthday. In the rough the stone was valued at about $1,000,000, and about this price was actually paid therefor, viz, $400,000 in cash and $600,000 representing 60 per cent of the interest they had therein, on account of the fact that the Government is entitled to this percentage of the output of all diamond mines in South Africa. It will possibly be ready for delivery within seven or eight months.

[Photographs illustrating the foregoing sketch of the diamond and the factory where it is being polished are on file in the Bureau of Manufactures.]

METAL WARES.

MACHINERY AND APPARATUS.

BRAZIL.

GREATER COMMERCIAL ACTIVITY DISPLAYED BY AMERICAN EXPORTERS.

According to Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, it may be said without danger of exaggeration that American exporters are giving three times as much attention to the needs of Brazilian markets as was the case two years ago, concerning which he writes:

That this increased effort to get Brazilian trade has met with good results is evidenced by the fact that American exports to Brazil in 1907 increased in a greater ratio over 1906 than did those from any of the countries competing seriously with the United States for South American trade. American manufacturers are showing a most commendable readiness to take advantage of any special opportunities to secure their share of Brazilian trade. In some few cases there may be ultra conservative tendencies on the part of those who have in past years relied upon Brazilian markets for a certain demand for their products and have rather resented any attempt to show that more business could be done in their particular line. Generally such feeling has emanated from the export commission agent whose greatest profit is in selling the most goods with the least effort and who does not care, indeed he is not in a position, to push the sale of American products beyond the course of a regular and existing demand.

The inevitable result is that, except in the case of certain staple commodities which must in any case come from the United States, American producers are handicapped as against Europeans by reason of the latter's persistence in getting business where others do not expect to find it. A German expert representing a German machinery and hardware exporter has been traveling for months in the interior of the States of Bahia and Minas Geraes. He is familiar with the language, has become acquainted with the customs and needs of the inhabitants, and is conducting a campaign of educational advertising throughout the inhabited portions of those States. He is about to open a branch office for the company in Bahia. This is a sample of the kind of competition that American manufacturers and exporters are beginning to meet with—something more effective than commission-house efforts.

AMERICAN ENTERPRISE.

Two American well-machinery manufacturers are setting up outfits on the exposition grounds in this city, entailing considerable expense, for which they can not be repaid by any very large immediate returns, but at worst it can be but a short time before a heavy demand is certain to spring up for this line of American products, and

these two firms will have profited greatly through their preliminary advertising. A large manufacturer of cotton-ginning machinery who has heretofore had practically no business with Brazilian mills, having been advised of the situation and probable opportunities in this field, is installing an extensive working exhibit at the exposition soon to be opened. Inasmuch as over 36 per cent of all the capital invested in Brazilian industrial establishments is used in the operation of cotton mills, most of which use English machinery, the significance of American aggressiveness is in this case readily apparent. To take the case of a manufacturer long established in this market, mention should be made of an American shoe-machinery manufacturer who, while not entitled to exhibit as an American manufacturer, has combined with the largest shoe manufacturer in Brazil, who is also the largest shoe-machinery purchaser, and will have one of the finest exhibits in the coming exposition.

Many just criticisms of American export methods have been made, but it should be noted that usually they are called forth by the inexperience of exporters who are not established in the markets to which they make a first or an occasional shipment. The serious result of this is, of course, that it gives competitors from other countries who are familiar with foreign trade methods, and who are willing and ready to adapt their goods and methods to the needs of any particular foreign market, fine opportunity to discredit the goods of the American producer. Especially is this true of packing.

There is no doubt that, except where too much reliance is placed upon the methods of forwarding agents in New York, American goods arriving here bear comparison as to their condition with those from any other country.

SPECIAL OPENING FOR TEXTILE AND WOOD-WORKING MACHINERY.

Present conditions in Brazil and in some other countries doing business with Brazil make this an especially propitious time for pushing the sale of a number of lines of American goods. Probably the field offering the greatest inducements is that of industrial machinery. Textile machinery, for example, has been furnished almost entirely by British manufacturers. At the present time Great Britain's factories are having more orders than they can well attend to, with the result that less attention is being given to this field. American manufacturers of textile machinery should take note of this and get into the market here at the same time with American gin manufacturers, who are showing commendable enthusiasm in getting Brazilian trade.

While the greater part of Brazil's textile industries are confined to cotton mills, the woolen industry is receiving considerable attention in the State of Rio Grande and some very fine woolen products are being turned out by factories in that section. Up to the present time Germany and Great Britain have supplied most of the machinery for these mills, but, owing to the favor with which American industrial machinery is everywhere coming to be regarded, there should be a chance for manufacturers in the United States to get some of this business.

Another line of machinery which deserves more attention than it is at present receiving is that of lumber and sawmill appliances and wood-working machinery of all kinds. The Brazil Railway Company, an American organization which has received important concessions of timber lands along the right of way on its lines in southern

Brazil, is fast opening up the best timber lands in the Republic, and this must inevitably result in giving a tremendous impetus to the lumber industry in southern Brazil. Several development companies incorporated in the United States are looking up the situation with regard to the hardwood forests in Bahia and Minas Geraes, and railroads in this section are also being pushed gradually toward the timbered districts of those States. There can be no question but that there will be a considerable demand for wood-working machinery and sawmill equipment in the near future and that Americans can get the trade if they are on the field to supply the initial demand.

RICE MACHINERY—EUROPEAN COMPETITION.

The latest figures for the culture of rice show that the amount of that cereal produced in the State of São Paulo in 1907 was almost twice as great as in the previous year, and the increase in Rio Grande was almost as great. There is a corresponding increase in the demand for rice machinery in those States. American manufacturers already have a good deal of this trade, but they should have more of it.

To cite some examples outside of the industrial-machinery line, it is well to note that European producers are always ready to compete against standard American goods by producing a lower grade article for a lower price. The typewriter trade in Brazil is almost entirely controlled by the American makers of standard machines, but there is some demand for a cheaper grade, and in this line European manufacturers show greater activity than Americans. Much the same thing is true of cash registers, calculating machines, polygraphing appliances, etc. There is a steadily increasing demand for these goods and the market should be looked after.

The enormous amount of concrete and cement work which is being done all over Brazil gives rise to a demand for up-to-date concrete-working machinery, and, while very little of such machinery is as yet in use, the first to make its appearance here has been American made. The great difficulty in this respect is in the proper use of the machinery. I have seen a rock-crushing outfit at work on the streets here in connection with street paving, and there actually seemed to be doubt as to the utility of the labor-saving device as compared with hand labor. There was every indication of an imperfect knowledge of how to set up the machinery, and especially of operation. The same thing was true of a concrete mixer used at the same time. If the companies who sent out these outfits had deputed one of their own experienced workmen to initiate the users of the machines in their proper operation in place of simply turning them over to a commission house in New York and another in Rio, there is no doubt whatever that the sale of many other outfits would have resulted.

GERMANY.

ACTIVITY OF MANUFACTURERS IN EXTENDING FOREIGN MARKETS.

In stating that the German machine industry has been pushing its exports during the present year to a surprising extent Vice-Consul James L. A. Burrell, of Magdeburg, has compiled the following statistics:

In the first five months of 1908, 1,420,388 double centners (312,485,360 pounds) were exported, as opposed to 1,277,753 double cent-

ners (281,105,660 pounds) during the same period in 1907, showing an increase of 142,635 double centners (31,379,700 pounds), or more than 11 per cent. Not all branches of the industry have shared in this increase; for some it has been impossible to export more than last year. The principal increase has been in the export of steam machines of all sorts, including locomotives, locomobiles, and machines for working metals.

In the first five months of 1908, as compared with the same period of 1907, the exports in the most important groups were in double centners (1 double centner = 220 pounds), as follows:

	1907.	1908.		1907.	1908.
Steam locomotives	138,035	167,317	Machines for printing, bookbinding, etc	60,283	53,480
Steam locomobiles	34,228	36,762	Machines for working products of mines	55,606	51,459
Other steam machines	134,407	207,185	Sewing machines	74,118	74,785
Machines for working metals	137,977	194,864			
Machines for milling and the sugar industry	70,664	67,357			

The increase in steam engines and in machines for working metals was so large that it compensated for the decrease in other machinery. An increase is further shown in the exports of weaving looms, machines for wood working, thrashing machines, and lawn mowers.

GROWING IMPORTATION OF MOWING MACHINES.

Vice-Consul Burrell quotes the following statistics to show that the importation of mowing machines into Germany is of considerable importance and is steadily increasing:

During the first five months of the present year 150,629 double centners (33,138,380 pounds) valued at 10,000,000 marks ($2,380,000) were imported, as opposed to 147,129 double centners (32,368,380 pounds) in the corresponding period of 1907.

A large part of the machines imported comes from Canada, which furnished 18,600 double centners (4,092,000 pounds) in the period mentioned, as opposed to 13,492 double centners (2,968,240 pounds) in the corresponding period of 1907. The Canadian machines are admitted into Germany at the same low tariff rate, 4 marks ($0.95) per double centner (220 pounds), as those from the United States and England, while German goods sent to Canada are subject to an additional tariff.

JAPAN.

RAPID PROGRESS IN MAKING MECHANISMS FOR ORIENTAL NEEDS.

Consul-General Henry B. Miller, of Yokohama, submits the following report on the export of machinery from Japan:

The British commercial attaché in Japan says:

The export of machinery from Japan continues to advance yearly, the total in 1907 ($1,177,693) showing an increase of $447,718, or 61 per cent over the preceding year, and of nearly 250 per cent over the average of the last five years. The bulk consists of cotton gins and printing machines, which go to China, but Japanese workshops are now turning out various other kinds. Many of them may be fairly described as copies, more or less accurate, of foreign models. On the other hand, it must be admitted that the Japanese are often very clever in thinking out and executing labor-saving appliances. In a violin factory at Nagoya, where some 8,000 instruments are annually turned out,

ranging in price from $1 to $60 apiece, there were several simple machines at work, all, it is stated, invented by the proprietor and his employees, while it must be remembered that most of the tea-firing machinery used in the country is also admittedly of Japanese invention.

In relation to the foregoing I have to say that the Japanese customs returns show the exports of machinery during the past two years were as follows: $729,975 in 1906, and $3,362,219 in 1907. Of the 1907 exports, however, $2,184,526 classed as machinery was really steam vessels made in Japan for China, thus leaving the pure machinery exports as reported in the British commercial attaché's report.

LINES OF EXPORT.

The exports of machinery are classified as follows: (1) Printing machines to China, Korea, Hongkong, and the United States of America; (2) cotton gins to China and British India; (3) electric dynamos and motors to China and Korea; (4) spinning and weaving machines to China, Korea, and British India; (5) scientific instruments to China and Korea.

This advent of Japan into a machinery exporting country is a new phase of her industrial development, and rather a peculiar one when it is realized that the iron and steel necessary for making this machinery must be imported from foreign countries, either Europe or America.

There is a gradual development of the production of machinery in Japan along the lines of machinery used extensively within the country itself and generally throughout the Orient. Quite an extensive new machinery plant is being erected in Nagoya by the Mitsui Bishi Company for the production of cotton spinning and weaving machines. They expect not only to produce machines of this type for use in Japan but propose also to produce for export to China and British India. They claim to be able to produce a machine better fitted for the quality of cloth produced, especially for the oriental trade, as well as being designed especially to manufacture the cotton of India and the United States combined, than the foreign-made machinery which they assert does not handle this cotton to advantage.

MACHINERY SUITED TO ORIENTAL NEEDS.

The company erecting this plant for the production of cotton spinning and weaving machinery has extensive cotton spinning and weaving factories in Japan. The concern studies the particular quality of goods suited to the markets of the Orient and purchases the cotton in the cheapest markets of such quality as will produce goods for the oriental trade under the most economic conditions, and manufactures machinery especially to fit the raw material and produce the particular type of goods that the market requires. It is in the particular and detailed study of the conditions of oriental markets and productions that the Japanese are likely to have the advantage over foreign manufacturers of machinery.

I found on a visit to the silk habutae district that machinery was being introduced for the production of habutae that is likely to soon do away largely with the hand method of production now generally used throughout the country. Steam power and water power was being applied to weaving, sizing, drying, bleaching, and producing the thread from the cocoon. The first of these machines are im-

ported, usually from Europe, and from these models they design and produce in Japan machinery modified to some extent, and of a cheaper quality, for doing the same kind of work.

There seems to be little doubt that, with the progressive spirit of the Japanese in the introduction and production of machinery that hand work in all possible lines will ere long be supplanted by machinery and factory methods. It is clearly evident from the expansion of the export of machinery from Japan to Korea, China, and British India, that they will carry on machinery production with some degree of success. Whatever success they achieve I feel convinced will be the result of producing machinery of a lower price and, from our point of view, inferior quality, but especially fitted for the conditions of the oriental market.

COLOMBIAN SCISSORS TRADE.

INSUFFICIENT NICKEL PLATING ON AMERICAN GOODS FOR TROPICS.

Consul Isaac A. Manning, of Cartagena, calls attention of American manufacturers of scissors and shears to the manner in which their products soon loses its nickel plating and rusts in the tropical climate of Colombia:

A local merchant recently ordered a stock of scissors from the United States. The goods presented an attractive appearance on arrival, but soon afterwards they begun to show rust spots. The stock he ordered was from a Connecticut factory, but the same complaint is heard regarding different makes. Shears in use in this consulate for less than a year have lost all their nickel plate.

Not enough attention is being paid to the nickel plating, for once the scissors or shears begin to rust their usefulness is seriously lessened, as the rust soon destroys the edge and stains the cloth.

Another complaint, also a very serious one, was made by the merchant referred to. He charges the exporter with failing to fill the order according to instructions. The merchant ordered barber's scissors, in 8-inch lengths, and the shipper sent them in 7 inch, saying that "all barbers in the United States use the 7-inch shears." Even if this were true, it should not affect the house in its duty to its customer, for he knew what he wanted and why he wanted the particular size mentioned.

The barber's shears is very popular with dressmakers and cutters here because of the better edge on the blades. The fact that barbers usually do use 8-inch shears and not 7 inch lays this house open to the charge of "unloading," and the result is dissatisfaction on the part of the customer, who finds himself in possession of a line of goods which are not desirable in his trade. American manufacturers and jobbers must quit this "unloading" process, this sending "something else just as good," or deciding for the merchant buyer what he wants, when the buyer knows what his trade requires, if they would hold trade after getting it in South America.

[An American firm supplying the South American trade with scissors, responds to the publication of the foregoing report as it appeared in Daily Consular and Trade Reports, stating it was glad to have this information and that in future more careful attention would be given to the nickel plating.—B. of M.]

IRON PIPE IN JAPAN.

CONSTANT INCREASE IN USE FOR WATER AND POWER SYSTEMS.

The following report on the increasing use of iron and steel pipe in Japan, and the opportunity for enlarging the sale of American pipe therein, is furnished by Consul-General Henry B. Miller, of Yokohama:

The imports of iron and steel pipe into Japan in 1907 amounted to $1,728,849, an increase of $650,000 on the imports of 1906. This has been imported nearly altogether from the United States and the United Kingdom. The following statement shows the imports of iron and steel pipes and tubes into Japan from the United States and the United Kingdom during the last three years:

Year.	United States.	United Kingdom.
1905	$466,204	$521,760
1906	408,752	577,008
1907	663,774	882,329

The use of this pipe is primarily for water and power systems. The improvement of all of the cities in sanitation, and especially in providing for water power, has demanded a large amount of iron for water pipes. The continued development of the use of water power for light and power systems has also made an important increase in the demand for water pipes. While there is at the present time something of a depression in the general trade of Japan, and considerable economy in public expenditures is likely to result, there is no doubt but that there will be a continued demand for water pipes and an early revival of imports at the first evidence of improved conditions of trade and business.

PIPE IN TOKYO AND YOKOHAMA.

The following statement of the use of iron pipes in the city of Tokyo furnishes a practical idea of the expanding demands for the use of iron and steel pipe, and American producers of this type ought to be able to secure a larger proportion of this trade.

The question of the Tokyo waterworks is attracting considerable attention. The length of iron piping already laid is 478 miles, but extensions to the amount of 630 miles are needed, thus bringing the total length up to 1,108 miles. The houses actually receiving water now number 212,340 and their inmates aggregate 1,103,147. The volume of water actually filtered for use at present represents a supply for over 1,500,000 persons, but in order to reach that number and provide for the constant increase of population which is yearly taking place the above extensive additions of piping are required.

The city of Yokohama is supplied by water brought down by a pipe line 30 miles from the mountains. The Yokohama city assembly is about to investigate the project of Mr. Hara, the chief engineer of the Yokohama waterworks, with regard to improvement in the water supply. The estimated expenditure is $3,500,000, one-third of which is expected to be provided by the Central Government. The improvement will be completed within five y[illegible]s; and for ten years thereafter the cost of water will be r[illegible]cent.

AMERICAN WATCHES IN GERMANY.

FRANKFORT SUGGESTED AS AN IMPORTANT SALES CENTER.

In stating that in 1907 1,107 American silver watches and 12,763 watches in steel, nickel, and other cases were imported into Germany, Consul-General Richard Guenther comments:

It would be worth while for American manufacturers of watches to make efforts to increase their sales in Germany, and Frankfort-on-the-Main, being a chief distributing center for southern and middle Germany, would be a good place to push their products. It would seem that the United States watch works should be able to compete in the German market with Switzerland. When it is taken in consideration that in 1907 355,938 gold watches, 846,189 silver watches, and 458,057 watches in steel, nickel, and other cases were imported from Switzerland into Germany it would seem reasonable that a part of that large trade could be secured by the United States if proper methods were employed. [A list of the importers and wholesale dealers in watches at Frankfort is filed with the Bureau of Manufactures.]

ELECTRICITY.

PRESENT-DAY UTILIZATION.

CANADA.

COMPETITION OF PROVINCIAL GOVERNMENT WITH LOCAL COMPANIES.

Consul James M. Shepard writing from Hamilton gives further particulars concerning the proposition of the provincial government of Ontario to furnish electric power from Niagara Falls to the municipalities of that Province, within a circuit of 150 miles, concerning which he says:

The government commission, composed of two members of the cabinet of the Ontario government, has charge of this department and has given it careful study and attention. The commission has in its service expert electricians, who have spent a year or more in figuring out the possible cost to the municipalities as their share for the construction of the power line from Niagara Falls to the several points of delivery. This cost is to be shared pro rata between the municipalities entering into the scheme. It is proposed to furnish the electric energy to the municipalities at the price for which the government contracts it from the supplying company at the Falls, to which is to be added the necessary expenses for maintaining the line and keeping it in working order. An extra charge is to be added for the construction of the line, which will continue to be a fixed charge for thirty years. At the end of that period the transmission line becomes the joint property of the municipalities, who will thereafter pay all necessary costs for upkeep and management, as well as for the electric power furnished, the government retiring from further control in the matter.

This is an attractive theory for those who favor municipal ownership of public utilities; but after figuring upon the cost of power and the construction and maintenance of the line the government experts have not, thus far, been able to give a definite statement of what the cost per horsepower will be to the municipalities. The expectation of the government commission is that it will be so low that the expense to manufacturers will be less than that of steam power, there being no coal supply in Ontario.

SITUATION IN HAMILTON.

Hamilton is the first important point at which power would be furnished by the government, and the lowest estimate per horsepower, delivered here, is $17.80. The cost would increase to other municipalities in proportion to distance from the source of supply and the expense of construction and upkeep of the transmission line. The government contract proposes to bind the municipalities for a period of thirty years not to contract with any private company or corporation for a supply of electric power.

In the city of Hamilton there is a corporation which began in a small way many years ago to furnish electricity derived from its steam plants for street lighting and for the street railway system. Less than ten years ago this company utilized the water power at Decew Falls, 34 miles from Hamilton, constructing a power house, machinery, buildings, and a pole line to this city for the transmission of electrical energy. Contracts were made with the manufacturing establishments to furnish them power at a price far below the cost of steam power, and now there are very few factories, and those only small affairs, that are not run by electricity. Natural gas, with which this city is supplied, furnishes a cheap power to small users.

CONTRACT RENEWALS AND EXTENSIONS.

The city of Hamilton is now proposing to install electric power to operate the waterworks system and the sewage disposal plants instead of steam, and to that end a by-law was passed by the city council on July 17 authorizing a contract to be made with the local company for power at the rate of $16 per horsepower. An effort was made by the advocates of the government power system to contract with the government, but as the government could not yet make even an approximate offer at what price electric energy would be furnished, the city council accepted the proposition of the local company.

As the contract for street lighting will shortly expire, this question was also settled by by-law. The city has been paying $80 a year per lamp for all-night service during the entire year for 460 lamps. Under the new contract the city will be supplied with light at $47.50 per lamp of 2,000 candlepower, and the number of lamps will be largely increased.

These contracts are made binding for periods of five years, the city having the power of renewal at the end of each five years for twenty years by giving the company due notice. The city can abrogate the contract at the end of any five years, while the company may be held for the full period. In the contracts the city has provided for ample protection to the private users of incandescent lighting and to the manufacturers, so that the company can not take advantage of them and raise their rates. It is probable that the city council could not have made such favorable contracts had it not been for the prospective construction of the government transmission line from Niagara Falls.

EXTENSIVE MANUFACTURING—MACHINERY NEEDED.

Hamilton is substantially a manufacturing city, having now nearly 300 large manufacturing establishments, largely built up during the past eight years as the result of cheap power. They are mainly controlled by American capital, induced to locate here by reason of cheap power, and are managed by American experts. About $35,000,000 capital is employed, furnishing labor to over 10,000 men and women in the factories.

The bonded debt of the local power company is held by capitalists in the United States. The city council and the company are negotiating for a rebuilding and equipping of the street-car lines, increasing the mileage, and the purchase of new cars. To enable the com-

pany to undertake the cost at this time the city has agreed to guarantee the bonds of the company to the amount of $500,000. The contract is that the company shall provide 50 new cars of up-to-date construction, one-half of that number to be double trucks.

The new equipments of waterworks pumps and motors and new cars and rails for the street railroad should interest American companies.

DEVELOPMENT OF THE PROJECT.

TRANSMISSION LINE CONTRACT FOR WESTERN ONTARIO AWARDED.

In continuation of Consul Shepard's report, Consul A. G. Seyfert writes from Owen Sound that the hydro-electric power transmission plan from Niagara Falls to the towns and cities of western Ontario has at last reached the period when the contract for the erection of the line has been let. Mr. Seyfert continues:

The total length of line to be built is 293 miles, with 3,176 steel towers. The contract calls for a main line from Niagara Falls to Dundas, with lines from the latter place to Toronto, London, St. Marys, and St. Thomas, and was let to a construction company for $1,270,000, the lowest of 27 tenders, and includes all the lines in one contract.

The head of the construction company is an American, who was formerly connected with some of the Canadian railways. The line as now planned covers only western Ontario, but there is an important concession clause in it for additional lines of equal length to cover eastern Ontario at any such time as the people of that section of the Province may ask for the privilege of Niagara power.

The contract will necessitate the use of 507 tons of aluminum wire, together with 140,000 pounds of telephone wire. The towers will be 66 feet high and consume 6,554 tons of steel to build them. The estimated cost of the towers is $621,000. The work is to be completed by December 1, 1909. The material for the construction of this gigantic electric power transmission scheme is to be Canadian made as far as it is possible to secure it.

GERMANY.

WORK FOR ELECTRIC PLANTS OF SMALL CITIES ON ADJOINING FARMS.

The following notes on the use of electricity on the farm were taken by Consul R. J. Thompson, of Hanover, from parts of an address by Mr. von Podbielski, the former minister of agriculture of Germany, recently read before the Prussian Agricultural Society, upon which the consul comments:

The matter offers what appears to be a particularly good suggestion for increasing the utility of thousands of electric power plants distributed throughout the United States in the smaller cities and towns of the great agricultural districts. It should be of interest to the farmer located near towns having electric lighting power plants, and as well to the companies owning these plants and the manufacturers of electrical supplies.

It is probable that one-half of the electric power plants such as have been referred to lie idle during the day, and it would seem

obvious that by study and adaptation they might be utilized in the direction indicated.

The address referred to husbandry on a large scale as being the only finally profitable system of agriculture, this being the only form in which modern technical science can be advantageously applied to this industry.

"I always pity the farmer running after his plow," said the author. "On my lands the plowman sits on a plow drawn by a motor. With the small farmer this is impossible, and consequently he is always subject to the necessity of hard physical labor."

TRANSFORMING POWER FOR FARMING.

The first thing needed to put electrical appliances to use on the farm is the electricity. This may be produced by the farmer himself in his own power plants, but it is much more practicable and convenient to buy it cheaply of some electric plant in the neighborhood. The electric plants in small cities lie idle during the daytime, their supply of current for lighting purposes being necessary only at night. In such plants the current may, as a rule, be had much cheaper than if it were produced in one's own plant.

Even if special machinery must be employed for such work, production on a large scale will always be much cheaper than the production in small power stations on each individual farm, and therefore the so-called "Ueberland-centralen," or central power houses, which supply a whole district with electric current for all possible purposes, are increasing in number and importance. The question of distances arising, the electricity in the central station is generally generated in a high-voltage current. In this way it is possible to conduct very large quantities of energy to each of the farms or places where it is wanted by means of wires no thicker than the ordinary telegraph wire.

The high-voltage current can not be taken into use directly for various reasons, the principal of which is the danger to life. By means of transformers it is rendered harmless, and the low-voltage current is distributed about the farm by means of a special net of conductors. It depends on the extent of the electrical installation whether the secondary net of conductors supplies the farmyard only or the adjoining fields as well.

A transformer is inclosed in a city street booth similar to the advertising columns used in Berlin; the conductors go out from this booth, and electrical junction boxes are installed on the buildings of the farmyard as well as on numbers of poles in the fields. These junction boxes are similar to those used in connection with the electrical installment in dwellings, etc., where the conducting wire of lamps may be joined to the electric battery by means of contact connections. The junction boxes used on the farm are, of course, much larger and must be weatherproof, and the connecting wire, instead of being a fine insulated one, as used in dwellings, must be a strong, pliable cable from 50 to 100 yards long and which may be rolled on a reel as with a garden hose. With the junction boxes and such a cable we are able to reach nearly every spot in the farmyard and the greater part of the fields.

ADAPTABILITY OF MOTORS.

Having arranged for the delivery of the current to the desired locations, the next thing to consider is the motor. Its size will depend upon the amount of work to be done, but in all cases the motor must be portable. With a hand litter two persons can easily carry a motor which will be used in various places in the farmyard to drive small machines for house or yard work; it can be easily connected to such machines as chaff cutters, oil-cake breakers, draining pumps, corn shellers, grinders, etc. A good manager will use the motor to the greatest advantage in work of this kind.

The farm work in general lasts for only a few months of the year, and for this reason the motors are not permanently connected and may be used throughout the year for all kinds of work, thus deriving the largest possible returns for the money invested. Sketches are forwarded showing a portable motor running a mill for breaking oil cakes and the same motor used in connection with a pump to drain water from swampy ground. [These and other pictures illustrating the subject forwarded by the consul may be seen at the Bureau of Manufactures.]

Large motors for transfer must be put on wheels. By using belts, this motor can be used for all possible work and especially with thrashing machines. There are electrical thrashing machines in use where the motor is permanently connected with the machine. A number of such machines are in successful operation. Barns are equipped with electrical cranes lifting an entire load of hay at once and placing it in the loft at any desired place. Such an installation means the saving of numbers of farm hands.

Some large farms use electric cars. The electric railroad of the great Dahlwitz farm, which for ten years has forwarded large quantities of farm products to the markets of Berlin and vicinity, may be cited, proving that electricity in agriculture is not a toy or experiment, but of genuine profit in farm work. The use of electricity in agriculture develops slowly and has come much later than in other branches of human activity, but it will conquer one field of agricultural work after another.

COST PER KILOWATT.

In response to an inquiry from this consulate, Mr. von Podbielski offers the following suggestions:

If even a very small profit is to be derived from agricultural work, the farmer is bound to use machinery instead of day labor, because the wages for the latter are steadily increasing. Electricity is the power wanted and is the best adapted to the work. Electricity is always at hand when the proper conductors are provided. Until very lately it could not be used extensively on account of the great price for the kilowatt-hour, charges of from 40 to 60 pfennigs ($0.0952 to $0.1428) for the kilowatt-hour excluding its use for agricultural purposes. According to my calculations the price for the kilowatt-hour in Germany, in order to leave a reasonable profit, should be no more than 20 pfennigs ($0.0476); and if installations, already in existence, of turbines are employed it is possible to furnish electricity at such a price. At our coal centers the kilowatt-hour is already furnished at from 6 to 7 pfennigs ($0.014 to $0.0166).

The use of electricity in agricultural work may be classified as follows: (1) About the barnyard as working the chaff cutter, corn cleaner, bruising mill, hauling crane, etc., unloading of hay, and, on large farms, smithy and cartwright work, and, further, for lighting the stables and the houses; and (2) in the fields, pulling the plow, running the machines, reapers, etc., and thrashing.

There is no difficulty in installing the machines referred to in the farmyard, but the expense for the use of electricity in the fields is much too high as yet. The strong conductors and cables are too expensive, and the plow run by electricity does not as yet work satisfactorily. I feel sure that electrical centers will soon be installed in the country, and that the electrical force thus provided will be employed first of all for agricultural work.

IRELAND.

PARLIAMENTARY BILL FOR FRANCHISE OF UTILIZING PEAT.

Consul Alfred K. Moe, of Dublin, calls attention to the scheme recently developed to utilize the peat in the extensive bogs of central Ireland for the purpose of generating an electric power supply sufficient to drive the mills, run railway lines, and light the various cities and towns of central Ireland. The consul, under date of July 21, announces the progress of the enterprise:

For the purpose of organization and working it was necessary to obtain the sanction of Parliament to the scheme of the promoters, and during the past week a number of hearings have been given by the Parliamentary committee appointed to hear argument on the merits.

The bill proposes to authorize the erection of a station at Robertstown, County Kildare, 27 miles from Dublin, for generating electricity from peat moss, the peat to be taken from the Bog of Allen, to supply electric power to the surrounding districts. The bill had originally sought the right to supply electricity to Dublin and adjacent townships, but Dublin, Pembroke, and Rathmines have been struck out.

It is said that a number of agreements for the supply of power have been made, among them being several for the supply of electricity to suburban street railways. The money required for the enterprise is said to be waiting only for the passage of the bill before being turned in as capital for the new company.

When the bill was before the committee on public hearing an original director of the Manchester ship canal said they had tried gas produced from Irish peat, containing from 50 to 60 per cent of moisture, and found it to be very good. The scheme, from a public point of view, he thought, would employ a considerable number of persons and would be a commercial success.

One of the joint engineers of the enterprise stated that the area comprised in it was 847 square miles. Arrangements have been made, he stated, for the overhead transmission of the power, and he did not anticipate any difficulties under that head. The works they proposed to set up would give them 15,000 horsepower for fifty years on a 30 per cent load factor.

The bill, which, if it becomes a law, will be in the nature of a franchise, has been strongly opposed by several corporations near this city, including the Dublin Gas Company, on the grounds that the introduction of electric power on such a scale would seriously interfere with their present rights.

BOOK TRADE.

MARKETS IN LATIN AMERICA.

MEXICO.

PEOPLE DEMAND LITERATURE THAT APPEALS TO THE EMOTIONS.

Consul-General A. L. M. Gottschalk, before leaving Mexico City, reported that in the central and southern portion of Mexico there is a constant and increasing demand for American books and magazines. He wrote:

The territory covered by this report is the central and southern part of Mexico; the northern border, by reason of its proximity to the United States, would present a different situation in regard to the trade in American books and magazines. In the capital city and the surrounding districts, where there are over 5,000 Americans and where a recent directory [on file in Bureau of Manufactures] shows a list of English-speaking residents, there are several stores devoted to stationery and bookselling which supply smaller merchants in the minor cities of central and southern Mexico with American books and periodicals. A feature which occurs to one in looking over the stock of a number of these stores is the absence of the British magazines, and excellent, cheap, paper-bound novels that are so often brought from England to Spanish America, and which often successfully compete with American publications.

It should be noted that many stores of Mexico City order largely from the United States in gift books, Christmas booklets, and cards during the holiday season. A number of stores are kept by Americans, and their stock and general sales are greatly beyond what might be expected from the limited number of compatriots residing here. The accounts of one of these stores shows the following surprising record of sales: American weekly and daily papers received each month, approximately, 5,000, of which 90 per cent are sold; American monthly magazines received, of which 95 per cent are sold, approximately, 2,350. Sales of American books, per year: Miscellaneous, 3,000; current fiction, 4,000; standard authors, 1,000; technical books, including treatises on games and books of travel, 3,000. These figures probably represent two-thirds of the entire sales of American books and periodicals in this city. The demand for American books and periodicals is constant but limited; still, an increasing number of Mexicans buy American magazines and technical journals.

MEXICAN LITERARY TASTES.

To present clearly the possibility of a growing demand for American works translated into Spanish in this country involves a digression into the mental attitude of Spanish-Americans generally toward our country as a fountain head of culture. The average Spanish-

American taste, in books of fiction, turns naturally to France. Much Spanish modern fiction is read, but the popular taste runs very largely toward the emotional class of French novels translated into Spanish. Of our own classic writers of fiction very little is generally known save perhaps Edgar Allen Poe, and among contemporaneous writers whose works appeal to the fantastic and emotional side of the mind. Occasionally works of thrilling contemporaneous interest have grown popular among Spanish-Americans in translated forms, such as "Uncle Tom's Cabin," and of recent years certain of President Roosevelt's published works. I have no doubt that a great many works of modern American fiction could be successfully translated and marketed here, but these should be invariably of the emotional kind already alluded to. The habit of reading magazines and periodicals in homes is not at all general, and very little could be done in the way of monthly magazines of translated American fiction. It should be borne in mind by American publishers that few Mexican ladies do any reading, and that for some years to come there will be little demand here for the class of literature which finds its best market among American women.

Viewing the situation broadly it is evident that while Spanish-Americans respect our natural abilities at commerce and such practical applications of science as engineering and dental surgery, they are still very far from regarding the United States as a possible source of culture or art. Our favorite books and plays do not appeal to them, on the score that we are "too phlegmatic," that our art in literature has too little of the impulsive and dramatic to please them.

The great bar, of course, is the language, for almost every advanced young Spanish-American learns to read French from his text-books at college, whereas the possession of English is looked upon as quite a separate accomplishment. This French influence is particularly marked in Mexico where, since Maximillian's reign, the word French has been synonymous with elegance and culture.

SPECIAL AGENT'S REPORT.

NATIVE AUTHORSHIP AN ESSENTIAL FEATURE IN TEXT-BOOKS.

Special Agent Arthur B. Butman, writing from Mexico City, had the following to say on the best way of introducing American text-books in Mexican schools:

The Mexican market for American books and publications in English is a limited one, being almost wholly confined to the English-speaking population. Books in languages foreign to the country, with the exception of certain medical works of German and English origin are limited. Various well-stocked bookshops exist in Mexico City and in other of the larger towns where American and English works, as well as the current magazines of both countries are found on sale.

The principal requisite for the text-book trade is that books shall be written by native Mexican authors. Accordingly, if American houses should put out text-books so produced the market for their publications would be a far larger one than is now the case.

The department of education both of the Federal District and of the various States throughout the Republic, adopt the text-books to be used in the public schools; consequently the market depends upon

their adoption by these authorities. This adoption would obviously be much more easily secured by American publishers were the books written by native authors.

A large proportion of the text-books now in use in the Federal District are written by native authors and published in Mexico City. I find the matter of cost is, after authorship, the most important consideration. Superiority of binding or contents will not insure sales of American productions if the price is much in advance of that demanded for Mexican published books. No universal system obtains regarding the ownership of text-books. In some States they are purchased by the pupil, in others the books are furnished, partially at least, by the State government.

For the purpose of comparison in price the following examples are cited: A child's reader of Mexican publication sells for 20 cents gold; a geography, elementary grade, for 20 cents, and when purchased in any considerable quantity by the Government, a discount of 25 to 30 per cent is allowed from these prices.

An American child's reader sells for 30 to 40 cents, a geography sells for 40 cents, each of corresponding grade. A discount is also allowed by American houses to Government purchasers of text-books.

It should be stated that the American productions are far superior in binding, paper, and material. Nevertheless the question of price is one of greater importance, while paramount is the preference for books by native authors, a preference which is only natural, and so the more readily appreciated.

THE SALE OF FICTION.

As regards the sale of novels in Mexico, the greater number of Spanish novels—that is, the cheap paper editions—are published in Barcelona, Spain. Owing to the extreme low cost of labor, poor quality of paper used, and the inferiority of binding, the Spanish publishers are enabled to produce these works at an exceptionally low price. Dealers in Spanish America can secure novels from Spain, laid down in their own town, at a price equal to or lower than the actual cost of production in the United States. The Spaniards are able to supply the market at the above low rates, not only for the reasons already mentioned, but owing also to the fact that enormous quantities and varieties of books of this sort are turned out by them. Furthermore, a new work published by a Spanish house need not depend upon its export trade for a market, whereas the American publisher must depend upon markets to be found in foreign countries for a work published in a foreign language.

One of the oldest and best-known American publishing houses is putting forth commendable efforts to introduce text-books containing the most modern pedagogical methods of instruction. The works were written at first hand in Spanish and carefully adapted to the special needs of the Latin-American youth. To show the sincere efforts made on the part of this publishing house it may be noted that the author of a number of modern text-books was educated in various institutions of learning in the United States at its own expense, with the object of securing the most comprehensive and scholarly edition of text-books for Latin-American use.

[Samples of Mexican text-books and Spanish novels sold in Mexico may be seen at the Bureau of Manufacture.]

AGUASCALIENTES.

NEWS COMPANY PUSHING INTRODUCTION OF AMERICAN LITERATURE.

Consul W. D. Shaughnessy, of Aguascalientes, makes the following report on recent advances made toward introducing English literature:

The condition of the American book and magazine trade in this district is considered good. There are about 800 Americans residing here who make the trade a success to the dealers, who carry practically all the magazines, and many of the daily and Sunday newspapers published in the United States. Magazines which sell in the United States for 10, 15, and 25 cents, can be bought here for 12½, 17½, and 30 cents gold. One finds also many of the latest and accepted novels which sell at an advance of about 35 cents per volume, the difference being greater than on magazines, owing to the higher rate of duty on bound books.

It is possible that there would be a demand for American publications translated into Spanish, but as a rule the educated classes in the district are not great readers. There has been an increasing demand for school-books for the teaching of English, and one of the prominent news companies of the United States has undertaken the establishment of a library, such as the "Booklovers," which demonstrates its confidence in the demand for American publications.

CHIHUAHUA.

GOOD MARKET FOR MAGAZINES, TECHNICAL AND TRADE JOURNALS.

Consul Luther T. Ellsworth, writing from Chihuahua, gives the following report, in which he calls attention to the possibility of introducing translations of American fiction:

The stationery houses in this city and the larger cities of this consular district do a considerable trade in all the leading magazines published in the United States, principally among the foreign population, though quite a number of the educated Mexicans who speak the English language take American magazines.

Books are not so generally sold as magazines owing to their high price. There are several American magazines, mostly devoted to technical subjects, or trade, agricultural, and mining, published in Spanish, and these enjoy a wide circulation. No doubt magazines or works of fiction published in Spanish would prove popular among native residents of the better class.

CIUDAD PORFIRIO DIAZ.

TRANSLATIONS OF AMERICAN BOOKS WOULD FIND A MARKET.

Consul Luther T. Ellsworth, of Ciudad Porfirio Diaz, submits the following relating to the demand for American books in that consular district:

Real "book stores" do not exist in this part of Mexico. There is one dealer in books and magazines in this city, and his trade comes to him without an effort, but it is not extensive. Translated into Spanish, American publications would sell here, but no great trade could be expected with the present condition of no book stores.

In Monterey and Chihuahua Americans have opened book stores and have a good trade in American publications. Eagle Pass, Tex., which is separated from this city by a river only, has a fine trade in American publications. English-reading people residing in this city buy their books there.

DURANGO.

DAILY PAPERS WILL CREATE DEMAND FOR AMERICAN LITERATURE.

Consul Charles M. Freeman, of Durango, transmits the following report in which he notes the increasing demand for English reading matter:

The condition of the book and magazine trade in Mexico is good and constantly improving. When it is taken into consideration that there are several daily papers published in Mexico which are printed in English, and that in this consular district a new daily, also in English, commenced publication the first day of the present month, it will be seen that not only is there a demand for reading matter printed in English, but that proprietors of papers who are usually good judges believe that the demand will increase.

In this city the book trade is confined almost wholly to books printed in Spanish. However, the demand for American publications in English is on the increase, magazines being the best sellers. There is also a limited demand here among the educated for translations of the best American authors.

MATAMOROS.

RISING GENERATION WILL READ AND SPEAK ENGLISH.

Consul Clarence A. Miller, of Matamoros, sends the following report on the progress made in the speaking of English and reading of English literature in that part of Mexico:

This city, which has 8,000 or 10,000 inhabitants, constitutes practically the entire consular district for business or trade of any kind. The majority of the people are very poor, yet there are here quite a number of persons of means, among whom are government officials, both civil and military. The middle class, consisting of merchants and business men, are educated and interested in the current events of the business and political world.

The children of the poorer classes are being given as good an education as is possible under present conditions. Hence it is that there is a lively trade in books and magazines, with the indications that the demand will increase. As few of these people read or speak English, this trade is almost wholly confined to publications in the Spanish language. They are, however, intensely interested in American affairs and seem to be in sympathy with American methods. They send their children to schools and colleges in the United States whenever they can afford to do so. A demand could no doubt be created for American publications of fiction and nonfiction if translated into Spanish. The few Americans here secure their magazines and books direct from the publishers, though it is now possible to obtain some books and most of the leading magazines in Brownsville, Tex., which is just across the river.

MAZATLAN.

DEMAND IS FOR LITERATURE IN THE ENGLISH LANGUAGE.

Consul Louis Kaiser, of Mazatlan, transmits the following information relative to the sale of books and magazines in that Mexican consular district:

There is only one good and well-stocked book and stationery store here. It is doing a fair business, rapidly increasing its sales and extending its patronage; especially is this true of books of fiction. Magazines also sell rapidly, even at the great advance in prices made here, as the magazines which are sold at retail in the United States at 10 cents are sold here for 20 to 22½ cents gold.

With the present increase of English-speaking people in this State the sales of American publications in the English language will also increase. There is little or no demand here for American publications translated into Spanish, but a good demand for American publications printed in English.

MONTEREY.

PEOPLE PREFER TO READ AMERICAN AUTHORS IN ORIGINAL LANGUAGE.

Consul-General Philip C. Hanna, of Monterey, reports that newspapers in English are common in that consular district, and that there is demand for American books and magazines:

There is a large and increasing book and magazine trade in this part of Mexico, especially in the latest American books by popular authors, leading American magazines and daily newspapers. Some of the stores of Monterey keep a large supply of the chief works of the best authors, a large variety of magazines, and daily newspapers from all parts of the United States.

I do not believe that there is any special demand in this part of the country for American publications translated into the Spanish language, since nearly all educated Mexican families are instructed in the English tongue, and as a rule prefer to read these publications in the language in which they were originally written.

Monterey has two daily newspapers owned and published by an American, one in English and one in Spanish. They both have a large circulation, contain Associated Press news, and wield great influence in northern Mexico. Several of the large cities in this consular district have daily newspapers in the English language, and nearly all large towns have one or two weekly papers published in English. When it is taken into consideration that there are thousands of Americans residing in northern Mexico and always a large transient American population, nearly 50,000 in all, it can be understood why publications in the English language are popular and in demand.

TORREON.

LIBRARIES KEPT UP TO DATE—MARKET FOR BOOKS OF HIGH GRADE.

Consular Agent George C. Carothers, of Torreon, makes the following report on the market for good books in his district:

There is here a very large mail-order magazine and book trade, nearly all the American families sending for their periodicals by mail. There are, also, continuously arriving here agents for book stores in the United States who sell large numbers of books. This is an exceptionally good market for fine works, there being many

good libraries belonging to private individuals that are kept up to date. Although hard to estimate, it is safe to say that a number of thousands of dollars are spent yearly in this city for books and magazines published in the United States.

There is quite a call for American publications translated into Spanish, and among both the Mexicans and Americans there is a demand for American publications in English. Most of the educated Mexicans talk and read English.

TUXPAM.

HOW TO BIND BOOKS IN ORDER TO AVOID PAYING IMPORT DUTY.

Consul A. J. Lespinasse, of Tuxpam, in reporting on the book trade in Mexico emphasizes the need of selling books at low prices. He says:

The condition of the book trade in this country is in a flourishing state. The magazine trade as it exists in the United States is unknown here. There would be a good field for American publications, fiction and nonfiction, and in fact a multitude of other works, if translated into Spanish and offered at low or medium prices. There would also be a moderate demand for the finer grades of artistic binding. In this city there would only be a limited demand for translated American publications owing to its population of only 7,000, not including the suburbs, which are inhabited by the poorer classes.

Mexico undoubtedly offers an exceptionally good field for all works of fiction and nonfiction if translated into Spanish and sold at a low price. Paper, binding, and general workmanship should be of the plainest so as to reduce cost to a minimum. Although plain the general appearance should be attractive. Chivalrous sentiment is a prominent characteristic among all classes in Mexico, and novels of all kinds strongly appeal to their nature if at all worthy of being read, and price is moderate. Many are debarred from this enjoyment, as even the most inferior novels retail at 75 cents to $1.50 Mexican currency ($1 Mexican = 50 cents gold). As a rule all works of fiction are received from Spain. Translations from French authors are popular here.

Magazines such as are published in the United States for $1 to $3 gold annually, are unknown here, with the exception of a very limited supply received by American residents or a few natives who have been educated abroad and who understand the English language sufficiently well to appreciate this class of publication. Judging from the popularity enjoyed in Mexico by the few American fashion magazines which are published in Spanish, others containing fiction or historical and illustrated, if also published in Spanish, would meet with general favor.

A number of illustrated magazines are received from France and Spain, but the prices at which they are sold render it impossible for any but the wealthier class to purchase or subscribe. The $1 magazines if published in Spanish would be a revelation and become popular with all classes.

If printed books and magazines are imported with plain paper covers they are admitted duty free; if the covers are of cardboard, or leather, or cloth binding the duty is 5 cents Mexican per gross kilo (2.2 pounds).

COLOMBIA.

DEMAND FOR CHEAP BOOKS—MAGAZINE IN SPANISH WOULD BE POPULAR.

Consul Isaac A. Manning, of Cartagena, makes the following report on the excellent opportunity of selling books and magazines in Colombia, if only prices can be sufficiently reduced:

The reading public of the district does not seem to care to build up private libraries, hence the principal book sales are confined to paper-bound volumes, usually novels more or less of an erotic character. The exceptions are of course in the matter of scientific and historical books, which are considered worth keeping for reference. The heaviest sales of the principal booksellers of Cartagena are in cheap editions of standard works published in Spain and Paris, where, owing to the lack of local demand for good material or work, the publishers are able to place the text in the hands of the reader at a low price.

Efforts have been made to introduce better built books from American publishing houses, but the prices have been prohibitive. The Paris and Barcelona publishers, using the lightest and cheapest paper, but with a highly illuminated back, can place the novels of Dumas, Sue, Charlotte Braeme, and other favorites of the Cartagena reading public on sale here at a retail price of 25 cents per volume, with a good profit to the seller, while the same novels published in the United States, printed in clear type, with good ink and on staple stock, can not be sold here for less than 40 or 50 cents per volume.

There is very little demand for cloth or better bound books, although it seems to me that if, as in the United States, there was a constant advertising of the seasonable books, there might be aroused an interest that would bring about a demand for better books as well as for better styles of binding. With a knowledge of American books, good translations should sell here. In order that it may become known that new books are equal to some of the older ones, and that they should not only be bought to be read, but to be added to private libraries, publishers must reach the readers as well as the merchants.

AMERICA'S PART OF THE BOOK TRADE.

In regard to the magazine trade, a Spanish edition of any of the many excellent magazines would be a good seller all through South America, and especially where mail facilities are equal to those now existing between the United States and Colombia. The magazine would also aid in the extension of the book trade, because a high standard magazine could not help arousing interest in high standard books. A proper canvass would quickly build up a good paid subscription list in South America for such a magazine.

If American publishers desire to compete with the French and Spanish publishers on their own ground, they must publish and print books on cheap paper, thus meeting their prices. In school books a part of the trade is with the United States, and some illuminated books for children are bought there, yet most of this latter class of book work seen here is French or Spanish.

There is a limited sale of books in the English language here, because the colony of English or American people is small. Occasion-

ally a Colombian who has learned English buys an English work, but this is the exception rather than the rule.

During the year ending June 30, 1906, out of 12,371 kilos (kilo= 2.2 pounds) in weight of books imported, the United States supplied 5,338 kilos, France 3,114, Spain 1,588; but dealers complain that the American books, other than the educational, were too good for the trade, and during the next six months France supplied 4,908 kilos, Germany 2,265, and the United States only 1,100 out of 8,872 kilos imported.

The complaint is also made of American stationery and blank books that they are too high in quality and therefore can not compete in price with light-weight, cheap goods which will serve the purpose of the consumer.

BRAZIL.

BRAZILIANS PREJUDICED AGAINST BOOKS PRINTED IN SPANISH.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, forwards the following report, in which he invites attention to the demand for schoolbooks printed in English:

The sale of periodicals and books published in English is limited in extent. Particularly is this true of magazine literature. There are three first-class newsdealers in this city who keep on hand a small stock of current American magazines in connection with a much more complete supply of European publications. Imports of books and periodicals from the United States have not been of enough importance to secure separate classification in customs returns. In 1906 France exported about $273,000 in publications to Brazil; Portugal, $110,000; Germany, $62,000; Italy, $53,000, and Great Britain, $30,000. Very few Spanish publications of any kind are to be found on sale here. Even the booksellers and newsdealers have a prejudice against them. Several magazines published in Spanish at Buenos Aires are usually on sale, they being read principally for their political interest. The lighter English and American fiction translated into Portuguese finds a ready sale here. Several weekly publications and some of the dailies frequently have stories and articles of this sort.

French literature has a larger representation here than any other except Portuguese. A majority of the advanced schoolbooks are in French, it being difficult to secure suitable text-books in Portuguese. Particularly is this true of books on mathematics and the sciences. All well educated Brazilians read French readily and many speak it well. French magazines and fiction as well as more serious literature are offered for sale at more reasonable prices than other foreign publications. The high prices at which English and particularly American magazines are sold constitute a serious obstacle to their sale even among the foreign population. A 10-cent magazine sells commonly for a milreis (about 30 cents); a 25-cent magazine can not be purchased for less than 60 cents; some sell for 75 cents. Of course the duty collected on all publications has something to do with this extreme price, but most magazines come through the mails and so evade customs charges. If sent directly to the news-

dealer or bookseller, either by mail or otherwise, a duty of about 5 cents per pound is collected on all publications of ordinary binding. Fancy bindings pay more.

English is taught in nearly all Brazilian schools, and this gives rise to a slight demand for English method books. Elementary English is nearly always taught in connection with Portuguese, though some schools use French as the medium of instruction. There are two flourishing colleges of American origin where text-books published by American book companies are used.

The field for American publications in Brazil is slight. Probably the entire English-speaking population of this city does not exceed 5,000, and Brazilians read French so much more generally than they do English that French publications are much more in demand.

ARGENTINA.

TIME CONSUMED IN FILLING ORDERS IS A GREAT OBSTACLE.

Consul-General Alban G. Snyder, of Buenos Aires, transmits the following report on the book and magazine market in Argentina:

The book trade in the Argentine is limited to a great extent to the city of Buenos Aires, where, besides many native booksellers, there are several English, French, Italian, and German bookstores. Among the educated Argentines there is a preference for French literature. The taste for reading is confined to the few, and has not yet extended to the lower classes. Translations in Spanish of French works of fiction, and also of English and other foreign novels, are in demand by those who read, although a great many of the educated people prefer the French literature in its original language.

There is no demand for Spanish translations of American novels, but for good books on agriculture, cattle breeding, sheep, horses, alfalfa and the like, and scientific books on engineering, law, electricity, medicine, and dentistry there is an opening. The demand for American publications in English is not very extensive, although with improved shipping service it might be considerably increased.

LACK OF SHIPPING FACILITIES.

Where orders from England can be executed in the space of seven weeks, three months will hardly suffice to have them filled from the United States. Whether this is altogether attributable to defective shipping service or to the desultory system of American bookselling agencies, or to both combined, is not certain. The methods of American booksellers, however, when compared with their London competitors, are deplorably backward and leave much to be desired. With London houses quarterly accounts can be arranged, or if financial guaranty is given, one can depend upon things being done in a businesslike manner. With a New York house no financial guaranty is of the slightest use, and a quarterly account is not to be thought of. One of the prominent booksellers here says the business methods of New York book dealers are about as follows: "While we have a supply of your cash on hand we will send you our publications; when your cash is exhausted we will stop sending you our publications until the next remittance arrives. If this does not suit you it is not our fault; take it or leave it." It may happen that the Buenos Aires booksellers' funds do not reach New York before the previous supply

has run out, and if so periodicals are stopped. This is most annoying to the bookseller who may have subscribers to these periodicals. In the case of English agents such occurrences are unheard of.

With regard to the American novel, published at $1.50, there is no room for it here, owing to the cheap editions published in London.

The American system of book exportation differs widely from that of England and other European countries. The case of books and periodicals which can be brought out on parcel receipt from England can come from the United States only by cargo, on bill of lading. New York agents are not allowed to send such cases on parcel receipt, so they send them as cargo, with the consequent delay and extra expense.

CHILE.

COST OF AMERICAN BOOKS IS BAR TO THEIR POPULARITY.

Consul Alfred A. Winslow, of Valparaiso, calls the attention of book dealers to the opening in Chile for American books and magazines. He says:

The book and magazine trade of Chile is receiving more attention than ever before, and the sales for 1907 exceeded by far those of any previous year. Quite a number of the American, English, German, and French magazines are found on sale in the bookstores, but the demand is limited mostly to the foreign population. There are two magazines published in this country in the Spanish language that have a large sale. "Zigzag," published in Santiago, and "Sucesos," published in Valparaiso. It seems there might be a fair opening for more American magazines if they were pushed, for the Chilean people are turning more and more to things American.

The book trade of Chile is of considerable importance, having amounted in 1906 to $135,544 United States currency, divided as follows: England, $25,926; Germany, $44,705; France, $20,257; Spain, $22,046, and the United States, $17,959, with a small balance for the other countries. There is no duty on printed books. The Chilean seems to prefer the French authors. During the last year a bookseller brought out from England quite a number of volumes of standard English fiction and found such good sale for them that a larger order was later sent in, and he reports good sales from the latter lot. There is a healthy growth toward higher ideals, and a taste for better literature.

There is a growing demand for English and American fiction, and the tendency is toward the American authors. The tide is changing and now great interest is taken in anything American. It is a healthy growth, and will create a greater demand for the standard American works, both in Spanish and English.

The American publisher is at a great disadvantage because of the higher cost of production. Local booksellers will buy from European publishers when they can find the works they wish, for they can buy them cheaper. The demand is chiefly for the cheaper bindings, and paper covers. There is a good opening in Chile for American publishers if the prices can be met. There has never been a more favorable time to study this trade than at present. There is no question but that it can be made a profitable business, and it would be a great factor in bringing the people to better understand our institutions, aims, and interests.

PERU.

BOOKS FROM THE UNITED STATES HAVE ADVANTAGE IN FREIGHT RATES.

Consul-General Samuel M. Taylor, of Callao, sends the following report in which he calls attention to the special conditions that favor and also to some that retard the sale of books in Peru:

As the English-speaking population here is not numerous, there is only a moderate demand for books in that language. Considerable quantities of paper-bound publications are sold by the dealers handling books in English. About 10,000 volumes are sold annually in Peru. There is a field here for good American fiction and nonfiction publications translated into Spanish. These could be sold to better advantage than the same kind imported from Spain. Certain American novels are selling here at retail at 20 to 25 cents, while a translated Spanish edition imported from Spain has to be sold for 70 cents on account of higher freight and other charges.

If the dealers here were content with a moderate profit, a large trade could be developed in the cheaper class of publications. But in this as in other lines consumption is much limited by excessive retail profits. In the majority of cases if a profit of 100 per cent can not be obtained, the article will not be handled.

Ordinary books are admitted free of duty. Prayer books and other publications bound in fancy covers are subject to a duty of 40 per cent ad valorem.

ECUADOR.

PEOPLE ACCUSTOMED TO READING NEWSPAPERS AND MAGAZINES.

Vice-Consul-General Robert B. Jones, of Guayaquil, forwards the following report calling attention to the demand in Ecuador for translations of American fiction:

Ecuadorians are not great readers of books or periodicals published in English. The daily papers are quite generally read and serve to keep the people informed as to current events. Several reviews are published with more or less regularity, devoted to literature and art, which have a small circulation, as also do some foreign magazines devoted to fashions and other matters of special interest to women. Works of fiction, especially of the lighter sort, are in demand, and there is also a sale for such works as translations of the writings of Voltaire, Herbert Spencer, and other authors of that class.

There is some demand for Spanish translations of popular American and English publications, especially novels, but the general reading public seem to prefer Spanish and French authors. A few American magazines and some other publications in English can be obtained at the book stores, but the sale is limited, being confined principally to the few Americans resident in the country.

ECONOMICS.

FOREIGN FINANCIAL AFFAIRS.

SCOTLAND.

READJUSTMENT OF BANKRUPTCY LAW SOUGHT BY BUSINESS INTERESTS.

Consul Maxwell Blake, of Dunfermline, has inspected the statistics of the Scottish Trades' Protection Society and finds that the last forty-four years show that the society has dealt with 23,845 claims for the recovery of debt amounting in the aggregate to $8,336,729. The consul's details follow:

Of the sum involved $5,040,963 was recovered. Thus the total loss suffered by the various members of this society amounted to $3,295,966, or an average of approximately $74,908 per annum, during the period covered by these statistics. It is further estimated by the accountant of the society that the loss from bad debts throughout all Scotland, including, of course, those not members of the Trades' Protection Society, reaches an annual sum of more than $7,500,000.

In 1880 the imprisonment of debtors act was repealed in Scotland, and although there were legal means then substituted which were intended to be a sufficient counterpoise for the loss by creditors of the power to imprison debtors, the merchant classes are asking its reenactment by the complaint that the acts operative since then have proved inadequate to their proper protection. They further complain of the loss of the power of arresting absconding debtors, which seems to have worked an additional hardship upon them.

DEBTORS' ASSIGNMENTS.

The counterpoise referred to, offered in substitution for the old power of imprisonment of debtors, gives the creditor the right to petition the court for a decree in "cessio bonorum." If the debtor is then without means to meet the demands of his creditors, he is expected to make a voluntary assignment of all his effects to his various creditors, and thereby secure immunity from any personal service.

To compel the unwilling debtors to execute the act of assignment, creditors were empowered to further petition the court for a decree in "omnium bonorum," but the further provision of the act which gave the creditors the right to attach the wages of the debtor was by far the most effective mitigant left him.

As the debtor was also empowered to assign his own wage, the practice is now growing for merchants extending credit to insist on written assignments of wages; a practice which has recently become so general that many of the larger corporations carry separate accounts in their books for the voluntary assignments of wages granted

by debtors. As may be inferred, the growth of purchase on the so-called installment plan is very rapidly spreading throughout the country.

AVOIDING SERVICE—PROPOSED CHANGES.

In further relation to the subject, the bankruptcy laws, as at present in force, unquestionably lend themselves to the malpractices of insolvent debtors. If a debtor can avoid service for a default of the debtors' act for four months, he thereby escapes punishment upon a declaration of bankruptcy.

In recent suggestions for the amendment of the bankruptcy law, it is recommended by a departmental committee that omission or failure of a debtor in bankruptcy, who has not kept book accounts for two years preceding his bankruptcy; who is engaged in any trade or business, conducted by himself, the proceedings of which involve an amount in excess of $1,000, shall upon summary conviction be punishable by imprisonment alone; the law to specify which books are necessary.

Certain other amendments are also proposed, the most notable of which is in regard to the protection of married women, who have heretofore not been subject to proceedings in bankruptcy. It is claimed that this privilege has been so widely abused to defraud creditors by women who trade, as well as those who do not, that hereafter this exemption shall no longer be extended to them.

SPAIN.

RECOINAGE OF CURRENCY IN ORDER TO GET RID OF ILLEGAL COIN.

Mr. William Miller Collier, American minister at Madrid, transmits the following report on the proposal of the Spanish Government to rid its currency of illegal coin:

For many years there have been circulating in Spain, alongside of the legal "duros" (5 peseta pieces), many illegally issued silver duros, known as "duros Sevillanos," because supposed to be manufactured in Seville. These coins are of a weight and fineness equal to that of genuine coins, and the profit to the manufacturer in issuing them consists in the seigniorage, the difference between the face value of the coin and the bullion value of the silver therein contained, which is much less than 5 pesetas.

These illegal duros are very difficult to distinguish from the genuine, for although they have less finish and sharpness of outline than the new genuine coins, they bear a great resemblance to those old genuine coins which have been somewhat worn by use. As a result there has practically been no distinction between the genuine and the Sevillano coinage, though the bank or postal officials have sometimes rejected an alleged Sevillano. The quantity of these illegal coins in circulation has been so great that no ministry has hitherto attempted to get rid of them. In the Oficial Gaceta of July 16, however, appeared an order of the minister of hacienda providing that:

1. All coins of illegal coinage presented at the Bank of Spain or at public offices shall be retained and canceled with a special stamp.

2. The offices receiving such coins shall give to the holder, if he holds them in good faith, a receipt for the same, upon which receipt he can obtain payment for the value of pure silver therein as fixed by the London market less the cost of melting down said coins into silver bars.

3. The treasury shall sell the silver bars thus obtained, and thus reimburse to itself the amounts paid to said holders.

4. The mint shall determine and publish the main points of difference between the legal and illegal coins, in order that the public may have due notice of the same.

ORDER CAUSES FEAR OF LOSS.

In consequence of the general refusal to accept duros of any kind for fear they should be illegal, the minister was induced to issue, on July 18, an explanatory order, pointing out that the first, second, and third provisions of the previous order will not and can not be carried out until its fourth provision has been complied with—that is, until the mint has determined and published the points of distinction between the good and bad duros.

It is too soon to say what will be the effect of this last order, but it still leaves the loss to be borne by the bona fide holders of duros Sevillanos.

The minister of hacienda recently stated that the government had coined to date 1,000 million duros, 600 million of which were now held by the Bank of Spain. This total amount of coinage would not, of course, include the illegal Sevillano issues. It is popularly supposed and was recently stated in the senate that a considerable amount of the silver held by the Bank of Spain consists of Sevillano coins.

FRANCE.

SCALE OF EARNINGS AND INCOMES OF DIFFERENT CLASSES IN PARIS.

Consul C. P. H. Nason, of Grenoble, submits some statistics concerning the earnings and incomes of certain classes of the French people in Paris, as recently published by M. Andre Lefèvre, the president of the Paris municipal council. The consul writes:

The annual income of the average Paris household is placed at about $730. In the fashionable quarter of the Champs Elysées, the annual average household revenue is said to be about $5,600; in the near by Faubourg Saint Honoré, $3,700; while in the Madeleine district it falls to $3,500.

As to the incomes of certain professional men in France, it was ascertained that out of the 2,000 advocates practicing at the Paris bar only about 200 earn over $2,000 a year, and only about 50 receive above $10,000.

The number of physicians practicing in Paris is placed at 2,500, but only about one-half (1,200) of these make more than $1,600 a year. Dentists do somewhat better; a fashionable one can easily earn $6,000, while in some cases this figure is greatly exceeded.

In French families of the humbler class the living expenses in many instances are met only by the wife contributing to the common fund out of her marriage portion. Oftentimes this portion or "dot" of a French girl is used in part to establish the husband in business.

Saleswomen in the largest department stores earn $60 a month. Male and female house servants receive, respectively, in the neighborhood of $20 to $8 a month. The bottom of the scale seems to be reached with the poor seamstresses who toil from dawn to dark in the making of children's clothes. One cent an hour is indicated as their stipend, but if exceptionally clever they earn 35 cents for twelve hours' work.

AUSTRIA.

HENCEFORTH PRICES MUST BE STATED IN CROWNS AND HELLERS.

The following information concerning a recent Government order prohibiting the use of the words guldens and kreutzers in quoting prices in Austria is furnished by Consul John S. Twells, of Carlsbad:

A few years ago the currency of Austria was altered from guldens (florins) and kreutzers to crowns and hellers. Misunderstandings, however, frequently occur at the expense of persons buying goods, especially foreigners traveling in Austria, because in the shop windows, restaurants, etc., prices are given and the goods bought under the presumption that they were in crowns and hellers, while the bills were made out in guldens and kreutzers, which are double the value of crowns and hellers, shopkeepers and other persons stating that they intended not to charge in crowns and hellers, but in the former currency.

The Austrian Government has now issued an order that any person placing prices in the shop windows, on bills of fare, etc., in the former currency (guldens and kreutzers) makes himself liable to punishment and will be prosecuted.

Americans entering Austria after the 1st of July should know that all prices which they notice in the public streets and places must be in crowns and hellers, and whenever an attempt is made to charge in guldens and kreutzers the nearest public officer should be notified of the incident.

GERMANY.

LARGELY INCREASED ISSUES OF BONDS AND SHARES OF STOCK.

During the first half of the present year the amount of new issues of bonds and shares listed at the German stock exchanges aggregated 2,267,000,000 marks ($540,000,000). In furnishing this statement Consul-General Richard Guenther, of Frankfort, adds:

About one-half of the total was for loans and bonds of the Federal Government and the individual States of the German confederation. The loans of German provincial and municipal bodies amounted to $125,000,000; of bonds issued by the German mortgage banks, $60,000,000; of mining and industrial stock companies, $43,200,000; the balance being new bonds and shares of German and foreign railroad and tramway companies, banks, and other commercial, shipping, and industrial institutions.

The lowering of the interest rates has greatly stimulated the placing of these large financial issues. In the preceding half year the total amount of new issues of this kind on the German bourses only footed up $83,300,000.

COLOMBIA.

BANK CREDITS, EXTENSIONS, DISCOUNTS, DRAFTS, AND INTEREST.

Consul-General Jay White, of Bogota, furnishes the following concerning banking usages and charges in Colombia:

Six months is the approximate length of time granted before bills are due. Legally, extension is forbidden in the payment of drafts in Colombia. If, however, the creditor is willing, extension is granted

for an indefinite time, that is, payment is requested, as usual, of the drawee at his earliest convenience, and interest charged. The usual discount for cash is 6 per cent. The banks in Colombia are accustomed to charge a premium of 50 cents gold for any draft which does not amount to $5 gold.

As a general rule foreign firms charge 6 per cent per annum interest on accounts past due for merchandise sold in Colombia.

The present general bank rates of interest on loans (gold) is 1 per cent per month; on paper-currency loans it is somewhat higher.

CHILE.

STATISTICS OF REVENUE AND TRADE ANNOUNCED BY PRESIDENT.

The American legation at Santiago de Chile forwards a translation of extracts from the message of President Montt to the Chilean Congress in June, which is in part as follows:

In 1907 the revenues collected by the Government were 40,001,691 pesos gold [gold peso=36.5 cents American currency], and 154,976,385 pesos paper [Chilean paper peso worth on July 23, 18 cents], which, added to the 6,406,726 pesos gold and 7,177,065 pesos paper from 1906, made a total sum for 1907 of 46,408,417 pesos gold and 162,153,450 pesos paper. The expenses of the same year amounted to 31,134,446 pesos gold and 180,640,338 pesos paper.

Our international commerce reached in 1907 the sum of 573,762,585 pesos gold on the basis of 18 pence. The importations amounted to 293,681,855 pesos according to tariff value, and the exportations to 280,080,730 pesos according to the current market values. If we compare these figures with those corresponding in 1906, we find an increase of importations of 55,984,213 pesos and a decrease of exportations of 9,540,067 pesos.

GERMAN TUBERCULOSIS MUSEUM.

SCIENTIFIC EFFORTS TO COMBAT AND CURE CONSUMPTION.

Consul Samuel H. Shank advises that there has been established in the city of Mannheim a tuberculosis museum, the object of which is to educate the public as to the causes of tuberculosis, its cure, prevention, etc. He describes its operations:

The museum is open three times a week for a period of two hours. During this time there are physicians present who instruct the visitors about tuberculosis. First an explanation is made as to what tuberculosis is, its causes, and how it is contracted; then how to avoid the disease, and finally how to cure it.

The museum is provided with charts which show the way in which the bacillus enters the lungs and its subsequent operations; to show the actual effects there are portions of the lungs of those who have died from the disease. There are also shown portions of the spine, throat, intestines, bones, and other parts of the body which have been affected by the disease. These are preserved in alcohol and placed in a glass case for inspection. To show the danger of contracting the disease, various samples of dust are shown in small bottles and casts showing the effect of these dusts on the lungs of laborers in mines, quarries, limekilns, paper factories, celluloid, ivory, iron, rubber, and tobacco works.

One room shows the diagrams of factories equipped for preventing the spreading of dust. There is also exhibited a model grinding machine which prevents the dust from flying about the machine. One

room is devoted to the exhibition of lung protectors, inhaling apparatus, and disinfection stoves. Various receptacles for sputum are shown, not only for public use in halls and railway cars, but also pocket receptacles.

MEANS TO DISSEMINATE INFORMATION.

There is a reading room in which one may read the history of the "white plague" and its effect on humanity, with articles treating it in all its aspects. These articles are printed in different languages so that all may learn. Many pamphlets are given to visitors to take with them, so the knowledge may be disseminated as widely as possible. Companies of soldiers, street-car employees, and others are brought to see the museum, and by this means a great number of persons are reached who would not otherwise visit it.

One of the most important exhibits is that showing the nourishment contained in various food products. In order that the visitors may readily understand this, there are four rows of glass jars, one each for albumen, fat, carbohydrate, and water. The quantity of each ingredient obtained by the purchase of 50 pfennigs (12 cents) worth of various foods is shown by filling the different jars with the proportionate amount of nourishment obtained. Printed lists showing the relative value of various foods are also given out. The following is a sample:

Foodstuffs.	Amount purchasable for 50 pfennigs.	Contains in available form—			
		Albumen.	Fat.	Carbohydrate.	Water.
	Grams.	*Grams.*	*Grams.*	*Grams.*	*Grams.*
Necessary daily rations	.....	118	56	500	.....
Beer ..... liters	2	.....	.....	93	2,050
Raw coffee	180	.....	.....	27.9	21.6
Lard	280	.8	266	.....	1.9
Butter	238	1.2	193.8	1.2	33.3
Margarine	333	1.7	281.3	1.7	30.8
Prunes	666	12	4	293	186.5
Carrots	4,166	29.1	8.3	283.2	3,707
Eggs	294	35.9	33.9	.....	217.1
Fat pork	280	39.4	98	.....	133
Very fat mutton	294	46.4	79.3	.....	155.8
Spinach	2,000	48	4	64	1,780
Fat mutton	312	51.4	16.5	.....	217.1
Rice	833	53.3	4.2	641.4	104.1
Beef	280	54.3	19.9	.....	200.2
Rolls	1,250	71.2	5	710	411.2
Haddock	455	74.6	1.3	.....	370.8
Pickled herring	417	76.7	65.5	.....	197.7
Cabbage	6,250	81.2	12.5	262.5	5,625
Turnips	12,500	87.5	25	687.5	11,312
Milk	2,778	88.9	94.4	136.1	2,427
Rye bread	2,273	106.8	11.4	1,098	897.8
Potatoes	8,333	125	16.6	1,660	6,250
Army bread	2,778	133.3	11.1	1,321	1,083
Skimmed milk	5,000	145	25	220	4,525
Coarse wheat flour	1,786	150	14.2	1.196	225
Cheese	455	152.4	54.1	18 6	196.1
Lungs	1,250	168.7	28.7	.....	1,005
Lentils	962	175	4.8	439	117.4
Peas	1,563	256.3	7.8	694	215.3

There are numerous maps and diagrams showing the prevalence of tuberculosis in Baden. They show that up to the year 1883 the disease was constantly on the increase, while since that time there has been a gradual decrease (with slight exceptions) and at the present time the percentage of deaths from tuberculosis is from 11 to 12 per

cent. The maximum for Germany is 16.9 per cent, the minimum is 7.6 per cent, and the average 10.6 per cent.

A diagram shows that in the city of Mannheim the greatest number of deaths from tuberculosis occur between the ages of 25 to 30 for women and from 30 to 35 for men. There is also a map showing the number of deaths in each block of the city from 1903 to 1907. Another room gives the arrangement and location of several hospitals in Germany devoted to the treatment of tuberculosis.

The museum is under the direction of the Verein der Tuberculose Bekämpfung Ausschuss of Mannheim.

LIFE IN TAHITI.

PEOPLE, SCHOOLS, FOOD PRODUCTS, COST OF LIVING, ETC.

The following report concerning the inhabitants of the Society Islands and their advanced social condition has been received from Consul Julius D. Dreher, of Tahiti:

Of the total population of the Society Islands and dependencies, composing the French colony of Tahiti, numbering 31,000, more than 27,000 are of the native race, a fine type of Polynesians; about 2,200 are French, and about 1,500 are of fourteen other nationalities, mainly British, Chinese, and Americans, ranking numerically in the order named. Nearly two-thirds of the population live in the Society Islands, the group most advanced in civilization. Notwithstanding the fact that the hundred islands composing the colony are scattered over an area of the South Seas extending 1,300 miles from north to south and 1,600 miles from east to west, the inhabitants of most of them have had more or less contact with civilized people for a century. Various denominations have churches in the principal settlements in the larger islands.

The town of Papeete, which is the seat of the colonial government and the commercial center of the colony, has a population of nearly 4,000. Here are large wholesale and retail stores, two banks, several hotels, four schools, five churches, a free library of French books, a good hospital, a philharmonic society, two social clubs, a chamber of commerce, a telephone system, and a semaphore station. The streets are swept and the rubbish hauled off every week day. The water system is abundantly supplied from a pure mountain stream. The market, which is under the supervision of a food inspector, is supplied with an abundance of fresh meats and a great variety of fish, vegetables, and fruits (including nuts, about forty kinds of fruit grow in Tahiti). Bread, milk, and ice are delivered by carts daily.

USE OF MODERN UTILITIES.

Bicycles are common, and there are a few automobiles, for which the good roads kept up by the government are well adapted. There are letter carriers in town and a daily mail throughout the island of Tahiti. Foreign mails arrive every twenty-eight days from Auckland and every thirty-six days from San Francisco. Besides the government establishment, there are three other small printing offices in Papute. With the exception of the small sheets published by the missionaries, there is only one paper published here, the Official

Journal, which is devoted mainly to official matters and announcements of all sorts.

The climate of Tahiti, though warm, is healthful. The mercury seldom goes higher than 90° or lower than 65° F. except in the mountains, which rise to the height of about 7,000 feet.

Owing to freight rates and customs duties, almost all imported articles of food, including flour, bacon, lard, and canned meats, salmon, butter, vegetables, and fruits, cost from 50 to 75 per cent more in Tahiti than in the United States. In the market prices are as follows: Beef, from 20 to 28 cents a pound; mutton, 20 to 30 cents; pork, 15 to 18 cents; chickens (small), 30 to 50 cents each; turkeys, $2 to $5 each; eggs, 35 to 55 cents a dozen (eggs are imported at times from San Francisco); milk, 10 cents a quart; canned butter in stores, 39 cents a pound (no fresh butter in market); potatoes, 50 cents a peck. Fish, though plentiful in the sea, are dear in market. Vegetables, grown by Chinamen, are cheap, and so are fruits, which grow almost without cultivation. Living, on the whole, costs about 50 per cent more here than in the United States.

POPULATION OF GERMANY.

A GAIN OF ABOUT SIXTEEN PER CENT SHOWN IN LAST TEN YEARS.

Vice-Consul James L. A. Burrell writes from Magdeburg that the population of Germany at the middle of the present year, as just published in the Statistisches Jahrbuch fuer das Deutsche Reich amounted to 63,017,000, in comparison with 62,097,000 at the middle of 1907 and 61,177,000 in the middle of 1906. The increase for each of the last years was estimated at 920,000 people. At the last census, December 1, 1905, the population of the Empire amounted to 60,641,278, so that from that time an increase in round numbers of 2,375,000 has taken place. In 1898 the population in round numbers stood at 54,406,000; in the last ten years there has been an increase of about 8,160,000 people, or 15.8 per cent. In the year 1888 the population was estimated at 48,168,000, in the year 1878 at 44,129,000. In the year 1871 there were 40,997,000 people counted, so that now the population since the founding of the present Empire shows an increase of 22,000,000, or more than 53 per cent. The population of the territory now embraced in the German Empire has doubled since 1838.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

ARGENTINA.

REDUCTION OF CONSULAR FEES.

Consul-General Alban G. Snyder, of Buenos Aires, reports, under date of June 8, that by executive decree the consular fee for the legalization of health certificates which, in accordance with article 10 of the animal sanitary law, must accompany every package of animal products imported into Argentina, has been reduced from $2 gold to 50 cents gold on every bundle, package, or consignment not exceeding 5 kilograms (11 pounds) in weight.

AUSTRALIA.

PREPAYMENT OF CUSTOMS DUTY ON CATALOGUES.

In view of recent changes in the Australian customs tariff and regulations, the statements published in Monthly Consular and Trade Reports for March and June are supplemented by the following summary of the regulations governing the payment of duty on catalogues sent to Australia:

The duty on advertising matter as is now dutiable may be paid by any of the following methods:

(*a*) The weight of any one mail may be bulked by the consignor and duty at 6d. per pound, or 35 per cent ad valorem, whichever is higher, remitted in one sum to the deputy postmaster-general of the State to which the catalogues, etc., are addressed. In doing this the manufacturer should address the separate catalogues, place proper postage upon each envelope or wrapper, and write or stamp on each the following words: "Duty remitted to the deputy postmaster-general." By the same mail as that by which the catalogues are sent, the deputy postmaster-general at Sydney, Melbourne, Brisbane, Adelaide, Perth, or Hobart (the respective capitals of the States of New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania), according to the State in which the persons receiving the catalogues reside, should be informed that a certain number of catalogues, worth so many dollars and weighing so many pounds, are being sent to a certain city in his State by way of a certain port. Inclosed in the letter should be a post-office money order for the amount of duty on the catalogues at the rate indicated above. If the amount forwarded for duty is correct the post-office official will issue orders for the delivery of the catalogues at the place of destination.

(*b*) Duty may be paid on total weight of any one mail by consignor's agent in the Commonwealth. This is the best method to

follow for firms having agents in Australia, as it prevents the possibility of errors or misunderstandings. In that case the catalogues should be sent in bulk to the agent, who will distribute them by the Australian mails to the addressees.

(*c*) By affixing fiscal stamps to each package covering the amount of duty payable on such package. Fiscal stamps can be purchased at the Commonwealth offices in London (72 Victoria street, SW.).

Duty stamps should be canceled by writing or stamping the date on the face of each before posting.

(*d*) If none of the above methods is followed, duty will be collected in Australia from the persons to whom the catalogues are addressed at the following rates: On catalogues weighing not more than 3¾ ounces, 1d.; 6¼ ounces, 2d.; 9 ounces, 3d.; 12 ounces, 4d.; 14½ ounces, 5d.; 16 ounces, 6d.

The following are the duties on printed matter in Australia under the new tariff:

Articles.	Rate of duty.
Paper:	
(*a*) Manufactures of, framed, including the weight of the frames, or unframed, having advertisements thereon, including price lists, n. e. i., trade catalogues, n. e. i., show cards, n. e. i., and all printed or lithographed matter, pictures, n. e. i., and posters of all kinds used or intended to be used for advertising purposes, also all printed bags and cartons; calendars and almanacs, n. e. i. ..... per pound..	[a] 6d.
(*b*) Printed matter and photographs, the property of any public institution and intended for deposit or exhibition thereby	Free.
(*c*) Australian directories, guides, and timetables ..... per pound..	6d.
(*d*) Printed matter, n. e. i. (except newspapers registered for transmission through the post), being or containing advertisements, including magazines containing advertisements, being more than one-fifth of the printed matter contained within the outside covers	Free.
(*e*) Printing, in rolls or folios known as newspaper, to be used exclusively for newspapers under departmental by-laws, in sizes of not less than 20 inches by 25 inches, or its equivalent	Free.
(*f*) Printing, n. e. i.	Free.

[a] Or 35 per cent ad valorem, whichever is greater.

BRITISH INDIA.

IMPORTATION OF COCAINE INTO INDIA.

Consul-General William H. Michael, of Calcutta, reports under date of July 9 that official notice has been published prohibiting the importation of cocaine, sucaine, novocaine, alypin, and every combination of these drugs into the Punjab, India, except by licensed venders, who are required to receive the drugs through Bombay and Karachi.

CANADA.

DUTIES ON EQUIPMENT AND REPAIRS OF COASTING VESSELS.

By an act approved July 20, 1908, a new section has been added to the customs act of Canada of 1906 providing for the imposition of duties on coasting vessels purchasing equipment or undergoing repairs in foreign ports, in certain cases. The section reads as follows:

SECTION 70. The equipments or any part thereof, including boats purchased or supplied in a foreign country for, or the expenses of repairs made in a foreign country upon, a vessel intended to be employed, or which is thereafter employed, in the coasting trade of Canada, shall, on the arrival of the vessel

in any port of Canada, if arriving within one year after the repairs have been made or the equipments have been purchased or supplied, be liable to entry and the payment of duty on the cost thereof in the foreign country at the following rates: (*a*) On the expenses of repairs, 25 per cent ad valorem; (*b*) on equipments, including boats, the same rate of duty as if the articles were imported into Canada in the ordinary course.

If the owner or master of the vessel willfully and knowingly neglects or fails to report, make entry, and pay duties as by this section required, the vessel with her tackle, apparel, and furniture, shall be seized and forfeited.

If, however, the owner or master of the vessel furnishes satisfactory evidence that the vessel, while in the regular course of her voyage, was compelled by stress of weather or casualty to put into a foreign port to make the said repairs, in order to secure the safety of the vessel or to enable her to reach port of destination, or that it would be impracticable to make the repairs in Canada for the want of a dock of sufficient capacity to receive the vessel, the minister of customs may authorize the refund of the duties on the repairs, and the vessel shall not be liable to forfeiture under the next preceding subsection.

The said section 70 shall not apply to repairs in the course of being made to a vessel in a foreign country at the time this act comes into force, or made prior to that time.

COSTA RICA.

FREE ADMISSION OF TUBES OF VITRIFIED EARTH.

Consul John C. Caldwell, of San Jose, reports that by executive decree No. 3, dated June 23, 1908, tubes of vitrified earth for sewers and drains are exempted from the payment of import duties and wharfage upon their importation into Costa Rica.

REDUCTION OF DUTIES ON PETROLEUM AND ACETYLENE.

Consul Caldwell also transmits a translation of a decree, dated July 18, restoring the old duties on refined petroleum and acetylene, which had been raised to a high rate in 1904 in order to encourage the use of alcohol for lighting purposes. The expectation not having been realized, the new decree provides for a restoration of the old duties, to take effect sixty days after publication of the decree, i. e., September 17. From that date duties on refined petroleum will be 16½ centimos ($0.076 United States currency) and on acetylene 6 centimos ($0.028 United States currency) per kilo (2.2 pounds). To this must be added 1½ centimos (0.7 cent) per kilo for wharfage. Two per cent of the amount of all duties is collected for Costa Rica's consular service.

REMOVAL OF EXPORT DUTY ON PEARL SHELLS.

Consul Caldwell reports from San Jose under the date of July 31 that the Congress of Costa Rica, by decree No. 36 of July 29, has removed for a period of five years the export duty on pearl shells. [The duty was 0.02 colon (0.9 cent) per kilo (2.2 pounds).—B. of M.]

CHINA.

NEW REGULATIONS FOR IMPORTATION OF ARMS OR AMMUNITION.

Consul J. C. McNally, of Nanking, under date of May 30, transmits the following translation of the revised regulations governing the admission of firearms and ammunition to China:

1. Arms or ammunition to be used for military purposes are to be reported by either the taotai-general or governor-general or general of the province concerned as to the particular nature, quantity, place of origin, as well as the destination, to the board of military affairs, after whose sanction a "hu-chao" or certificate

will be issued. At the same time the customs taotai concerned will be requested to communicate with the chief commissioner of customs to that effect, whose duty it shall be to communicate to the commissioner of customs concerned to look after examination of the said hu-chao or certificate. If the latter be found in good order, the goods described therein will be permitted to pass, and the date upon which they were permitted to pass should be forwarded to the board of military affairs for reference.

2. Any foreign merchant who is desirous of shipping a certain amount of firearms and ammunition to any of the Chinese military bureaus or such offices, either for the purpose of advertising or as samples, is required to communicate with his consul, requesting that a hu-chao or certificate be obtained from the customs taotai concerned, paying, however, the amount required as customs duty. The limited amount of arms of any description is four, and that of cartridges 2,000. Furthermore, the shipper of the said goods is required to provide bond agreeing that he will not dispose of the same to any individual or party. The customs authorities may examine the said goods whenever they deem fit, and should the goods be under suspicion of the customs taotai concerned he has the authority to refuse to issue such hu-chao or certificate necessary by communicating with the consul concerned.

3. (*a*) Foreigners of good standing are permitted when coming to China to carry with them a gun as well as a revolver, and as many as 500 cartridges for the purpose of self-protection. They should, however, pay whatever customs duty necessary, as well as present their goods to the customs authorities for examination. Any negligence in this respect will entail a forfeiture of the goods.

(*b*) Any regular foreign resident in China is allowed the privilege of ordering a gun and a revolver and as many as 500 cartridges once a year for self-protection, but he should first communicate with his consul, requesting a certificate from the customs taotai, as well as pay whatever customs dues are necessary upon the arrival of his goods. If the said arms, etc., are under suspicion of the customs taotai concerned, he has the right to refuse a certificate therefor.

(*c*) Foreign residents are permitted to carry with them twice as many firearms as well as cartridges stated when intending to travel in the dependencies of China, viz, Mongolia, Tibet, etc., provided they have a passport.

4. (*a*) Foreigners of good standing when coming to China are granted the privilege of carrying with them three guns for sporting purposes and as many as 3,000 cartridges, but are required to comply with the customs regulations mentioned. Any violation of the same entails confiscation of their goods.

(*b*) Any foreign resident in China is allowed the privilege of ordering three guns and 3,000 cartridges for sporting purposes once a year, but he should first communicate with his consul, requesting that a certificate be obtained from the customs taotai, as well as pay the customs dues necessary upon arrival of his goods. If the said arms, etc., are under suspicion of the said customs taotai, he has the right to refuse to issue such certificate.

(*c*) Foreigners mentioned are permitted to use only small cartridges for sporting purposes, for which a hu-chao or certificate is also necessary for landing. At the same time these foreigners are required to provide a bond or written promise agreeing that they will not turn the same over to any lawless individual or individuals. Should some one desire to import more than one sporting gun, in order that he may provide friends with one, etc., he may do so if the number of such articles does not exceed six, and moreover furnish the customs officers with names and residences of the persons for whom he is importing these articles. When a person, however, desires to import more than one gun for the purpose of selling the same, he can do so, provided he is not importing more than four. In the latter case the importer is also required to keep a memorandum containing names, residences, etc., of the persons to whom he sold the same, for the customs taotai's information whenever he needs it. The amount of cartridges allowed in both the above instances should not exceed 10,000.

(*d*) No foreigner is allowed to import articles for sporting purposes when intending to use the same for other purposes.

5. An annual report containing names, residences, date of importation, as well as amount of firearms and amount of duty thereto, should be forwarded to the comptroller-general of customs. Any such articles imported for the Government should also be reported to the board concerned as to who issued the certificate, as well as amount thereof.

6. In compliance with treaty provisions, no arms or ammunition is allowed to be imported for purposes other than those enumerated.

7. A duty of 5 per cent will be imposed on arms or ammunition described in articles 2, 3, and 4.

8. If the importer is obliged to land his arms or ammunition at Shanghai and transship them to another destination he should request the consul at Shanghai to communicate with the Shanghai taotai, giving him the information as to name and residence of the importer, as well as the amount of what he has imported, before a pass is granted, and upon the arrival of these goods the importer is required to request his consul at that port to obtain a certificate for landing the same from the customs taotai concerned, subject to the payment of customs duty, etc., as given in article 2.

9. The foregoing regulations are, generally speaking, a revision of the established stipulation existing, with such corrections or amendments as are deemed convenient by the different ministers at Peking. With a view to perfecting such regulations on the subject of importation of arms or ammunition, the revised regulations are subject to such further corrections or amendments as may be found necessary by the authorities from time to time.

CUBA.

CHANGES IN RATES OF IMPORT DUTY.

By decrees promulgated in the Gaceta Oficial, July 8 and 9, the following tariff numbers have been modified either as to classification or rates of duty, the amended form being as follows:

Tariff No.	Articles.	New rate.	Surtax.	Total duty.	Reduction to United States.	New rate to United States.
299	Horn, whalebone, celluloid, and bone; also compositions imitating these materials or those of the preceding paragraph:		*Per cent.*		*Per cent.*	
	a. Unwrought.....net weight, kilo..	$0.60	30	$0.78	20	$0.624
	b. Manufactured into cinematographic films and similar articles, whatever may be the purpose for or conditions under which imported, net weight, kilo.....	4.00	30	5.20	20	4.16
	c. Manufactured into any other kind of articles.....net weight, kilo..	1.20	30	1.56	20	1.248
184	Bovine cattle of any class, size, and from wherever imported, excepting such as is imported for breeding purposes, referred to under the corresponding paragraph in the free list of the tariff, gross weight, 100 kilos.....	2.25	30	2.925	40	1.755
	The following provision in reference to cattle exempted from duty and which formerly appeared as part of paragraph 184 will constitute a new paragraph added to the free list of the tariff, as follows:					
346	Bovine cattle under 6 years of age, imported for breeding purposes belonging to the breeds of Shorthorn (Durham), Hereford, Aberdeen-Angus, Red Polled, Galloway, Devon, Brown Swiss, Holstein-Friesian, Jersey, Guernsey, Ayreshire, Zebu, Mysore, Brahmin, and cattle under said age imported for breeding purposes from Porto Rico or the Argentine Republic, provided that the importer shall duly prove their origin.					

REGULATIONS REGARDING CONSULAR INVOICES.

Supplementing the statement published in Monthly Consular and Trade Reports for January, 1908, the following article regarding consular invoices which must accompany shipments to Cuba, written by Mr. Victor Hugo Baranco, attaché of the consulate-general of Cuba in New York City, is reproduced here from the Cuba Review. A careful perusal of the succinct summary of the Cuban laws and regulations on the subject will save exporters doing business with

Cuba a great deal of trouble and expense which result from a failure to comply with the law.

HOW INVOICES MUST BE MADE.

Invoices must be made on firm and durable paper, in a legible manner and in indelible ink. If typewritten, the original copy must be presented; duplicates and triplicates may be carbon copies. They must contain the name of shipper and consignee, name of vessel, marks and numbers, description of merchandise, specifying the materials of which it is composed, gross and net weights, detailed price and total value, including a statement of the expenses incurred by the merchandise up to the time it is packed and ready for shipment. If there are no expenses, state so.

In describing the merchandise, particular care must be taken in making a thorough statement of the materials of which it is composed. Example: If knives, state knives of steel with wooden handles or bone handles, as the case may be; if shoes, state made of leather with tops of cloth, canvas, etc.; if machinery, state if of steel or steel and brass or any other metals; if furniture made of oak, mahogany or pine wood; if cloth, state the kind and the number of threads of which it is composed.

INVOICES OF MANUFACTURER, PRODUCER, OR SELLER.

At the end of the invoice the manufacturer, producer, or seller will write in Spanish and sign one of the following declarations. If the article shipped is a product of the soil or industry of the United States: "Declaro que soy el (fabricante, productor, ó vendedor) de las mercancías relacionadas en la presente factura, y que son ciertos los precios y demas particulares que en ella se consignan, y que las mercancías contenidas en dicha factura son productos del suelo ó de la industria de los Estados Unidos de América." [a]

If product of the soil or industry of any other country than the United States: "Declaro que soy el (fabricante, productor, ó vendador) de las mercancías relacionadas en la presente factura y que son ciertos los precios y demas particulares que en ella se consignan." [b]

FOREIGN AND DOMESTIC INVOICES.

Each invoice must only cover the products of the soil or industry of the United States or foreign products. No invoice will be accepted by the Cuban customhouses including domestic and foreign merchandise.

When the declaration is signed by an individual having power of attorney it must be signed as per example: John Doe & Co., per, or by, Richard Roe, attorney; if by a member of the firm, John Doe, of John Doe & Co.

INVOICES PRESENTED BY AGENTS.

If the manufacturer, producer, or seller is not a resident of New York [or of another city in which there is a Cuban consul] a person must be appointed in this city to present the invoice, such appointment to be in writing and sworn to before a notary public. In this case, as well as when the shipment is made through an agent, in addition to any of the foregoing declarations signed by the said manufacturer, producer, or seller (as the case may be) a second declaration is required, written in Spanish, and signed by the agent, as follows: "Declaro que soy el agente autorizado por la persona que ha subscrito la anterior declaracion, para presentar esta factura en la oficina consular de Cuba en esta plaza, a fin de que sea certificada." [c]

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[a] Translation: I declare that I am (the manufacturer, producer, or seller) of the merchandise described in the present invoice, and that the prices and other particulars indicated therein are true, and that the merchandise mentioned in said invoice is the product of the soil or industry of the United States of America.

[b] I declare that I am (the manufacturer, producer, or seller) of the merchandise described in the present invoice and that the prices and other particulars specified therein are true.

[c] I declare that I am the agent authorized by the person signing the preceding declaration to present this invoice at the consular office of Cuba in this city for the purpose of certification.

NUMBER OF COPIES OF INVOICES REQUIRED.

Four (4) copies of each invoice are required—three are retained at the consulate, disposed of as follows: One copy is sent to the Habana custom-house, one copy to the Secretary of State of Cuba, and the third copy is kept on file in the consulate at New York. The fourth and fifth copies, if five copies are presented, are retained by the shipper. Many shippers think five copies necessary for certification. These are returned with the original, which bears the consul's signature and seal, and a duplicate copy, which is stamped "Certificado el original," which means "The original certified." It is advisable and will save the consignee time and trouble if shippers will send him the two copies of invoice as above described, i. e., the original and one copy. When the custom-house broker in Cuba makes his entry in the custom-house, he must present the original consular invoice (certified) and an exact copy which does not necessarily have to bear the second stamp "Certificado el original." In those cases where the shipper fails to send the broker the extra copy the latter is obliged to make out copy of the invoice, causing loss of time and trouble.

MERCHANDISE SENT BY MAIL.

Invoices of merchandise sent by registered mail must be presented with the post-office receipt.

Merchandise sent by mail from cities or towns where there is no Cuban consul need not be certified, but they must send the consignee a copy of an invoice, giving particulars, etc.

PORTS WHERE THERE IS NO CUBAN CONSUL.

When merchandise is shipped from a port where there is no Cuban consul invoices need not be certified. But if goods are shipped from a port where there is no Cuban consul, via a port where there is a Cuban consulate, invoices must be presented; in that case an agent of the shipper must present same.

CONSULAR FEES.

The fees on invoices are as follows: $2 on amounts from $50 up to $200; 10 cents extra for each additional $100 or fraction above $50.

Gratis on amounts less than $50, but there shall be added together the values under $50 which appear in one shipment by one seller to the consignment of the same person.

GOODS SHORT SHIPPED.

In those cases where a shipper has had an invoice certified at the consulate, and it should later result that the steamship company has "shut out" the entire shipment or part of same, the shipper must see that the steamship company marks on the manifest alongside of those goods which were "shut out" "short shipped." The consular invoice need not be recertified, but it is well to notify the consignee to the effect that the goods are to go forward on (whatever steamer the case may be) and not by the steamer that appears on the consular invoice, and he will therefore make his entry in the custom-house under the correct name of the steamer.

GOODS FOR UNITED STATES ARMY.

Merchandise consigned to the United States Army of pacification in Cuba does not require a consular invoice, but if the goods shipped are consigned to officers of the Army for their private use an invoice is then necessary (certified).

HOUSEHOLD GOODS.

Household goods, if shipped to Cuba as freight, must be accompanied by a certified invoice. If the effects are shipped as personal baggage, no invoice is required, but a declaration must be made either before the custom authorities in Cuba or before the Cuban consul, to the effect that the household goods are for personal use of John Doe or Harry Smith. Used furniture of persons coming to settle in the island does not pay duty, provided the same has been in use for one year. A declaration before a Cuban consul in the United States costs $5, but if made to the custom-house authorities in Cuba it costs nothing. The shipper must swear the goods have been in use over one year and are for his personal use; otherwise he is in danger of having his goods confiscated.

CONSULAR CERTIFICATE.

Certifico: que la presente factura, compuesta de ——— hojas selladas con el de este consulado, me ha sido exhibida por el firmante de la declaración que antecede quien me ha hecho entrega de un duplicado de la misma, que queda archivado en esta oficina.

Lo que firmo y sello con el de este consulado-general New York, á —— de ——— de 1908.

Derechos ———.

Art. 24 del arancel.

(Copy of stamp placed on the original copy.)

[Seal.]

Consulado-general de Cuba.

[Seal.]

Certificado el original.

(Copy of stamp on second copy.)

I certify that the present invoice, consisting of ——— sheets bearing the seal of this consulate, have been presented to me by the signer of the declaration preceding it, who delivered a duplicate copy, which remains on file in this office.

In witness whereof I have affixed my signature and seal, and that of the consulate-general of New York, this —— day of ———.

Duties ———.

Article 24 of the tariff.

(Copy of stamp placed on the original copy.)

[Seal.]

Consulate-general of Cuba.

[Seal.]

Date ———.

Original certified.

(Copy of stamp on second copy.)

CHANGE IN DUTY ON FODDER AND STRAW.

The Gaceta Oficial of July 31 contains a decree of the Provisional Governor of Cuba, No. 793, of July 30, 1908, providing that paragraph 269 of the Cuban tariff be amended to read as follows:

Fodder and bran, gross weight 100 kilos, $0.45.

(*a*) Corn or broom straw (millo), gross weight 100 kilos, $0.80.

In the case of fodder and bran there is a surtax of 30 per cent, making the duty on those products from foreign countries 58.5 cents; a reduction of 20 per cent on imports of this class from the United States makes the net duty to this country 46.8 cents.

In the case of corn or broom straw there is no surtax, but a reduction of 20 per cent in favor of the United States makes the duty to this country 64 cents.

GUATEMALA.

PROPORTION OF DUTY PAYABLE IN GOLD RAISED.

According to a Guatemalan decree of June 24, 1908, the proportion of duty payable in gold has been raised from 30 per cent to 50 per cent, except in the case of duties on cotton yarn for weaving, agricultural implements, flour, wheat, and salt meat, which are still payable 30 per cent in gold and the remainder in currency. The decree went into effect August 20. As the Guatemalan currency is far below par value, this raise in the proportion of duty payable in gold is equivalent to a considerable raise in the rates of customs duty, the extent of which it is impossible to ascertain with any degree of accuracy, owing to the constant fluctuation of the Guatemalan currency.

NETHERLANDS.

COMMERCIAL AGREEMENT WITH THE UNITED STATES.

By the terms of the commercial agreement promulgated by the President of the United States August 12, the United States grants to the Netherlands the reduced duty of $1.75 per proof gallon on

"brandies or other spirits manufactured or distilled from grain or other materials," while, in return, the Netherlands Government agrees that the following rates shall be charged on meat products imported into that country from the United States:

Upon mutton, salt pork, and salted bacon, 0.75 florin per 100 kilos [1 florin=$0.402; 100 kilos=220.4 pounds.]

Upon mutton, salt pork, and salted bacon, when smoked or dried, 1 florin per 100 kilos.

The Government of the Netherlands further guarantees to continue to admit into the Netherlands canned meats manufactured in the United States in packages weighing more than 4 pounds at the rates of duty hitherto levied, namely, 1, 6, and 8 florins per 100 kilos, according to quality and the distinctions made in the tariff of the Netherlands respecting meats, although entitled under strict application of the law to levy upon such canned meats a duty of 25 florins per 100 kilos.

The agreement is to continue in force until one year from the date, when either party shall notify the other of its intention to terminate the same.

PANAMA.

CONSULAR CHARGES ON SHIPMENTS TO THAT COUNTRY.

According to the consular tariff at present in force in the Republic of Panama, the consular charges for shipments to that country are as follows:

Consular invoices (four copies), 0.9 per cent (nine-tenths of 1 per cent) of the value of the shipment.

Manifests (four copies) specifying the cargo of the vessel, $6 for the first 100 pieces of freight and $1.20 for each additional 100 pieces or fraction thereof.

Manifests for cargoes (four copies) consisting of articles of iron, copper, zinc, wood, clay, etc., regardless of the number of pieces, $6.

Manifest of a vessel sailing with ballast, $3 for four copies.

Health certificates, $1.80.

RUSSIA.

PROPOSED INCREASE OF EXCISE DUTY ON TOBACCO.

Consul J. W. Ragsdale, of St. Petersburg, reports under date of July 29 that the minister of finance intends shortly to increase the excise duty on tobacco and to introduce the same for cigarette tubes, which were heretofore exempt. The increase of the excise on tobacco is expected to be a considerable one. Thus, the third sort of tobacco, which paid 28 kopecks per pound will now pay 37 kopecks, and the second sort will pay 76 kopecks per pound. Adding the indirect duty on cigarette tubes, the excise duty on 1 pound of tobacco of the third quality will amount to 53 kopecks, and of the second quality to 92 kopecks. The excise on the cheapest cigarettes is intended to be twice as great as on the cheapest grade of tobacco. For cigarettes costing 2.50 rubles per 1,000, a maximum excise of 1.05 rubles will be fixed. [1 ruble = 100 kopecks = 51.5 cents.]

VENEZUELA.

TRANSIT DUTY ON MANUFACTURED COPPER.

Mr. John Brewer, in charge of the archives of the American legation at Caracas, transmits a copy of the Venezuelan decree of July 21, 1908, which imposes a transit duty of 2 bolivars (38.6 cents) per kilo (2.2 pounds) on manufactured copper exported through the custom-houses of the Republic.

IMPORTATIONS OF EXPLOSIVES PROHIBITED.

Mr. Brewer also reports that by decree dated July 22 brown wrapping paper has been transferred from tariff No. 64 to Class III of the customs tariff, resulting in a change in the rate from 2.4 cents to 4.8 cents per 2.2 pounds. By the decree of July 11 the importation of nitroglycerin, dynamite, and similar explosives is forbidden.

MISCELLANEOUS.

EXPOSITIONS AND CONGRESSES.

AUSTRIA-HUNGARY.

EXHIBIT OF AMERICAN SHOE MACHINERY AT THE PRAGUE EXPOSITION.

Consul Joseph I. Brittain sends the following account concerning an exhibit of American shoe machinery at the exposition being held at Prague, Bohemia:

A full line of American shoe machinery has been installed at the Prague Exposition, where people of all classes are given a practical demonstration of shoemaking by machinery. Every stage of the work is shown and explained, commencing with the leather and other raw material and ending with the finished shoe ready for any shaped foot. The exhibit has been installed at a great expense on the part of the American manufacturers under the name of a prominent Bohemian shoe manufacturer, as foreigners are not permitted to exhibit under their own names.

The object of this exhibit is twofold: First to demonstrate the efficiency of American machinery and in the second place to overcome the prejudice existing in Bohemia against machine-made shoes. Heretofore there has existed in Bohemia a strong feeling against shoes made by machinery; especially has this feeling prevailed in small towns and rural districts. This feeling has not only retarded the sale of American shoes, but the sale of American made shoe machinery as well.

Daily the exhibit is crowded along its entire frontage of upward of 100 feet with people eagerly watching each movement of the operators at the machines. Thus far such a practical demonstration has done more to overcome prejudice and promote the sale of American shoes and shoe machinery than would all the circulars accomplish in a thousand years.

Factories already equipped with antiquated machinery made in Europe will be equipped with modern American machinery. The matter of adopting American shapes will be gradual. In the past thousands of people here have worn wide, soft, shapeless shoes, which have had a tendency toward making broad feet. Where such shoes have been worn the change to American shapes will be gradual.

Were other American manufacturers to follow the example of the American shoe machinery manufacturers there would be equally favorable results.

INTERNATIONAL DAIRY CONGRESS AT BUDAPEST.

The British consul at Budapest reports that the fourth International Dairy Congress will be held in the capital of Hungary in the month of June, 1909. Applications for membership must be sent, with a fee of 10 crowns ($2.03), to Dr. Stephen Koerfer, general secretary of the organization committee at Budapest.

ITALY.

INTERNATIONAL THEATRICAL EXPOSITION AT MILAN.

The Italian ambassador at Washington has furnished a copy of the announcement of the International Theatrical Exposition to be held at Milan in 1913 in honor of the first centennial of the birth of Giuseppe Verdi, the famous Italian composer:

The exposition will be divided into three grand sections: The Theater, playhouses and productions; Music, composition and interpretation; Artists and Theatrical Literature, relics, biographies, manuscripts, etc.

The theater section will include (*a*) reproduction of ancient medieval, and modern playhouses or theaters; (*b*) ancient, medieval, and modern productions or plays, a special division being devoted to moving picture apparatus, and the phonograph and its accessories; (*c*) costuming, stage setting, heating, illuminating, etc.

The music section will include (*a*) ancient and modern instruments and accessories; (*b*) writings of the different periods or epochs among the different races and nationalities.

The third section, which will be devoted to performers and theatrical literature, will include all that which pertains to the performers, to their work, and to their memory, such as photographs, autographs, reproductions of monuments, etc. Divisions will be devoted to sacred music, national hymns, patriotic song, war song, and folk song.

Milan, conceded to be the theatrical center of the world, is well fitted to hold such an exposition, having many large theaters, etc., where performances reproducing the history and the different phases of the theater among the different nationalities may be given.

GERMANY.

INTERNATIONAL LIFE-SAVING CONGRESS AND EXPOSITION.

Consul-General Richard Guenther writes that at the International Life-Saving Congress and Exposition—the first of the kind—which took place at Frankfort recently, the governments of twenty-seven nations were represented.

Besides these, 72 state and municipal authorities sent delegates, and 96 organizations concerned in the life-saving system participated in the proceedings of the Congress. The lectures and addresses before the Congress were of great interest and they were ably complemented by the two expositions, one of which comprised the scientific part—literature, graphic delineations, models, etc. The other showed the transportation methods, equipments, and apparatus. Several of the German States sent organized companies of the Red Cross service, which demonstrated their life-saving system by evolutions on the military parade grounds at Griesheim, a suburb of Frankfort. It has been felt for years past that by holding international congresses and expositions of this sort the cause of humanity and international good will would be much advanced. Now that this first International Life-Saving Congress has successfully met others are likely to follow in the future.

CHINA.

POSTPONEMENT OF THE INTERNATIONAL FAIR AT SHANGHAI.

Consul-General Richard Guenther, of Frankfort, quotes the report of the German commercial expert at Shanghai as stating that the International Exposition planned for next year at the Chinese metropolis has been postponed and is expected to come off in 1911. The expert puts the number of foreigners living in Shanghai at 17,971, of whom 6,212 were Japanese, 4,590 British, 3,040 Portuguese, 1,200 Americans, 875 Germans, and 850 Frenchmen. There were 780 foreign business or banking firms established in said city, of which 296 were Japanese, 201 British, 91 German, and 63 American.

AUSTRALIA.

SPANISH LACE AT RECENT MELBOURNE EXPOSITION.

Consul-General Frank D. Hill, of Barcelona, sends the report that out of forty lots of Spanish lace sent to the recent exposition at Melbourne, Australia, thirteen have been awarded premiums, one a gold medal, five silver medals, and seven diplomas of the first class. This success is regarded in Spain as a tribute to the industry and skill of the Spanish working woman. The lace industry is a house industry and very often occupies but a part of the time of the worker, her main occupation being other than lace making.

MOTION PICTURES.

ITALY.

HOW THE TRADE THROUGH EXCHANGE OF FILMS IS CONDUCTED.

The following information concerning Italy as a field for the sale of American motion pictures is furnished by Consul Albert H. Michelson, of Turin:

There would seem to be a very good field for American-made motion pictures in Italy. The number of exhibitors of such pictures is very large, and is constantly growing, and as novelty plays a highly important part in the selection of films for exhibition, there is a pronounced demand for foreign films of all sorts. This demand is only beginning to be met and is likely to increase for some time to come.

Foreign films are bought by Italian exhibitors in one of two ways, either through agents having their offices in Italy or in another European country, or from Italian manufacturers. The reason that foreign films are to be bought in large numbers from Italian manufacturers is that these manufacturers have a system of exchange with manufacturers of foreign countries. Every important Italian manufacturer exchanges the motion pictures that he produces for the motion pictures produced by a number of foreign manufacturers—generally one foreign maker per country. At the present time only one Italian maker is known to have such an understanding with an American house. It would seem important that American makers of motion pictures who are not already represented in Europe, and even that those who are so represented, should give this system of international exchange careful attention.

It is believed that an American house would find it to its advantage to sell pictures direct to an Italian agent, rather than intrust the sale of its pictures upon such a large market to an agent residing outside Italy.

The close ties between the United States and Italy through emigration should not be overlooked when considering the possible popularity of American scenes displayed in motion pictures. [The names and addresses of the leading manufacturers of motion pictures in Italy, transmitted by Consul Michelson, are on file in the Bureau of Manufactures.]

SWITZERLAND.

VIEWS OF AMERICAN SCENERY AND ACTIVE LIFE IN DEMAND.

Vice-Consul Leo J. Frankenthal, of Berne, furnishes the following information concerning motion pictures in Switzerland:

There are no motion-picture manufacturers in Switzerland. A few pictures are taken of festivals, etc., for local use by traveling shows, but films in general are imported mainly from Paris, where the agents of American and English firms, as well as the main offices of the French firms, are located. The French companies have an agent in Berne. The price of their films is about 25 cents per meter (39.37 inches). The system the most in vogue is that of renting a series of pictures for a week, consisting of somewhat over 3,000 feet of pictures for $30. The firms in Switzerland when they purchase pictures run them in traveling shows for some time, and then rent them to the small theaters.

The Swiss agent for Paris firms says: "There is no prejudice against American pictures; on the contrary, many are sought, and interesting educational views always find a market, such as Niagara Falls, farming in the West, life in the large cities, etc."

[The addresses of firms interested in traveling shows, fairs, etc., in Switzerland are on file in the Bureau of Manufactures.]

KITCHEN ICE-MAKING MACHINES.

EXTENT OF REPRESENTATION ON THE MARKETS OF FRANCE.

An American correspondent transmits to Consul-General Robert P. Skinner, of Marseille, an American newspaper clipping, in which it is stated that the problem of producing ice in small quantities quickly and cheaply has been solved by a French inventor, and who asks him to furnish the name of a French firm manufacturing this new machine. To this the consul-general responds:

I find upon inquiry that devices such as are described in the newspaper article have been upon the market in this country for a dozen years, but apparently they never have advanced much beyond the interesting scientific toy stage. In the chief bazaar of Marseille one model remained on hand the price of which was 75 cents, and the salesman informed me that it had been imported from the United States. In this device, similar in form to a domestic ice-cream freezer, the water is placed in a tin receptacle, which is plunged into

nitrate of ammonia. After agitation, ice is formed and withdrawn from the tin.

Better machines of French manufacture were upon the market for a long time, and sold for from $6 to $10. The manufacturers claimed that the nitrate of ammonia could be used over and over again, but in practice this appears not to have been the case. So much dissatisfaction followed the sale of these devices that most of the local dealers soon ceased to handle them.

At the present time one reliable Marseille house is selling with satisfactory results another form of freezing machine, worth from $17.37 to $27.02, according to size. No. 0 gives 300 grams (10.58 ounces) of ice per thirteen minutes; No. 1, 600 grams (21.16 ounces) in fifteen minutes; No. 2, 1,200 grams (42.32 ounces) in fifteen minutes, and No. 3, 2,400 grams (84.64 ounces) in twenty minutes. This device consists of a porcelain recipient for the water, which is placed inside a larger recipient containing either nitrate of ammonia or sulphuric acid and sulphate of soda. The whole, when tightly closed, is fitted to a curved iron frame, which once set in motion by the hand continues rocking automatically a sufficient time for the production of the ice.

The manufacture of artificial ice in most French cities is now carried on upon such a scale that it is scarcely profitable to make use of domestic ice-making machines, which nevertheless appear to have a considerable utility in hot countries where modern ice manufacturing and distributing methods do not exist.

SWISS ABSINTHE PROHIBITION.

REFERENDUM VOTE TO ABOLISH THE DRINK FROM THE REPUBLIC.

In reporting that the manufacture, importation, and sale of absinthe in Switzerland is now prohibited, Vice-Consul Leo J. Frankenthal, of Berne, gives the following particulars of the recent referendum by which this was accomplished.

In a previous consular report by the writer on the practical workings of the popular initiative in Switzerland, the absinthe initiative was explained at length. It was accepted by the Swiss people on Sunday, July 5, 1908, by a vote of 236,582 against 135,888. The total vote cast was 372,470 from a voting strength of over 807,700, showing that 335,000 voters did not go to the polls. Its acceptance amends the Swiss constitution by a paragraph prohibiting the manufacture, importation, and sale of absinthe in Switzerland. Damages will undoubtedly be paid to the manufacturers in the Canton Neuchatel, where a flourishing export industry had been built up. The Federal alcohol monopoly will lose a large sum annually.

The vote of the French cantons—Geneva, Vaud, Valais, Fribourg, and Neuchatel—where absinthe is consumed, and where, in Geneva and Vaud, its sale was recently prohibited by cantonal ordinances, rejected the Federal initiative by a small majority. The vote in the German cantons, however, where absinthe is practically unknown, turned the tide in favor of the measure. Thus its fate was decided for the citizens of western Switzerland, who were personally inter-

ested, by the votes of those in the other cantons, whom the measure did not affect. Central and eastern Switzerland had been appealed to by the western or French cantons to support them in voting in favor of the initiative, while the votes cast show that the French cantons as a whole rejected it.

DETAILS OF VOTE—ANOTHER PROPOSED AMENDMENT.

In some cantons the affirmative vote fell far behind the number of signatures to the initiative petition. In Canton Berne, where 38,337 voters had signed the initiative petition, only 24,593 voted for it, or 13,744 less than the number of signatures originally obtained. In Neuchatel 9,628 signed the petition for the abolition of absinthe, and but 6,340 voted for it upon the day of election. Fribourg shows 9,535 signatures in favor of the petition and 7,144 votes for the measure on election day; Glarus secured 3,420 signatures against 2,800 votes, and Basel-land 4,022 signatures to the initiative and 2,843 votes in the affirmative. A favorite placard of its adherents was a radiant white cross behind the range of the snowy Alps, printed upon a red ground, with the legend, "One for all, all for one. Vote 'Yes.'"

The question now arises how the Federal prohibition will work, since the Federal government has no police force of its own and is dependent upon the cantonal police. If 50,000 of the 135,000 voters against the initiative sign a second initiative, they can force the matter to a popular vote for the second time.

Another constitutional amendment (not proposed by the initiative) was accepted on the same day, and empowers the Federal Government to enact regulations concerning trades and handicrafts. This will cause a unification of the various cantonal ordinances regarding apprenticeship, settlement of disputes between capital and labor, and is far-reaching in its scope. The present factory legislation is about to be revised and extended.

IVORY NUT USES.

FRENCH IMPORTS, PRICE QUOTATIONS AND MANUFACTURE.

Consul-General Robert P. Skinner, writing from Marseille, gives the following account of the trade in ivory nuts and their use in France:

Ivory nuts, popularly called vegetable ivory, are the fruit of the Phytelephas macrocarpa, a species of palm, and they are known in France and Spain as corozo nuts and in Colombia as fagua nuts. The trees require fifteen years or more before they can properly mature nuts for manufacturing purposes. Vegetable ivory is used commercially for the manufacture of buttons particularly, gaming counters, various electrical appliances, and for various kinds of inlaid work, for which they are turned or carved.

The chief consuming countries of this article are France, England, Germany, the United States, Italy, Russia, and Spain. The port of Cartagena in Colombia alone exported ivory nuts in 1907 to the following extent in tons: Germany, 3,423; France, 505; United States, 441, and England, 53. These shipments all originated in the departments of Bolivar, Magdalena, and Atlantico on the Atlantic coast and Cauca on the Pacific coast.

Figures relating to imports and exports of these nuts in France are combined with those relating to other similar articles. However, the official statistics do convey an idea of the growing importance of the business. The following shows the imports into and reexportations from France of corozo, coco, calabash, and other hard nuts:

Items.	1907.	1906.	1905.
Value of imports for domestic consumption	$239,513	$224,266	$121,590
Weight of imports for domestic consumption ... tons	2,482	2,323	1,574
Weight total imports ... do	3,506	2,972	1,964
Weight total exports ... do	1,063	657	390

The Central American Republics generally grow and export ivory nuts, but the business is particularly important in Colombia, Panama, Ecuador, and Peru. Prices quoted at present, goods delivered in European ports, are: Guayaquil decorticated, 55 to 60 francs per 100 kilos ($10.61½ to $11.58 per 220 pounds); Panama, North Colombia nondecorticated, 20 to 23 francs per 100 kilos ($3.86 to $4.44 per 220 pounds); Guayaquil, Tumaco, South Colombia, 30 to 35 francs ($5.79 to $6.75½) per 220 pounds nondecorticated; or 40 francs ($7.72) per 220 pounds decorticated. The decorticated nuts sometimes reach the high price of 70 francs ($13.51).

The chief ports of shipment are Colon, in Panama, and Cartagena and Tumaco, in Colombia.

In France the chief consumers of vegetable ivory are the button manufacturers in the department of the Oise and in neighboring departments. The addresses are forwarded of various actual importing firms who handle ivory nuts on a large scale and who presumably have their connections in primary markets; also the names of certain button manufacturers who consume large quantities of the raw material. [These lists of names are filed with the Bureau of Manufactures. This Bureau has also received from Bogota, Colombia, a sample of the ivory nut, together with a request for machines to remove the husk.]

WIRELESS TELEGRAPHY IN PACIFIC.

EXTENSIVE SYSTEM PLANNED TO INCLUDE MANY ISLAND GROUPS.

Consul Julius D. Dreher sends from Tahiti the following information in regard to a network of wireless telegraphy, which it is proposed to establish among the scattered islands of the Pacific Ocean:

Capitalists who are interested in the extensive phosphate operations on Ocean and Pleasant islands of the Gilbert group, and in the new works about to be established on the island of Makatea of the Tuamotu Archipelago, have recently begun a movement to connect nearly all the groups of islands in the South Pacific by a system of wireless telegraphy. It is proposed to include in this system the Commonwealth of Australia, the Dominion of New Zealand, the Fijis, the New Hebrides, the Solomon, Samoan, Cook, Society, and Marquesa islands, and the phosphate islands of Ocean, Pleasant, and Makatea.

It is expected that the various governments having possessions in the South Pacific will aid in the establishment of the proposed system. Negotiations have already proceeded so far that the success of

the efforts seems to be almost assured. As the nearest available ocean cable office to Tahiti is at Auckland, 2,250 miles away, from which a steamship of the Union Line of New Zealand arrives at Papeete once every twenty-eight days, and a direct communication by a steamship of the Oceanic Company with San Francisco, 3,658 miles distant, is had once in every thirty-six days, it will be understood how deeply interested the French colony of Tahiti and its dependencies are in the complete success of these negotiations. Other groups of islands are equally interested in the establishment of this system, which means so much to the inhabitants of these widely separated archipelagoes.

The name of the proposed company is the Pacific Islands Radio-Telegraph Company. Of the proposed capital of £70,000 ($340,000), the owners of the phosphate deposits on Ocean and Pleasant islands have subscribed £10,000. In this radial system there will probably be ten or twelve circles, the largest having a radius of 1,250 miles, and requiring for each station an engine of 60 horsepower. It has not yet been decided where the main office of the proposed company will be.

[Names of those interested in the enterprise may be obtained from the Bureau of Manufactures.]

GAS MANTLE IMPROVEMENT.

ARTIFICIAL SILK NOW SUCCESSFULLY USED AS THE BASIC FIBER.

From Consul-General Richard Guenther, of Frankfort, comes the following summary from German journals of the use of artificial silk for gas mantles:

The Didaskalia states that the so-called Welsbach mantles for gas-light were hitherto prepared by saturating the mantles of woolen or ramie fiber with a solution of rare earths, which produce the increased light. Experiments to substitute silk, hemp, or jute proved unsuccessful. Artificial fibers did not become saturated or insufficiently so. According to the Moniteur Scientifique an artificial fiber has now been found which in all respects is equal to wool or ramie, namely, artificial silk, which is produced by dissolving cellulose in an ammoniacal copper solution. Only the nitrate of thorium does not answer well as a saturant. While artificial silk becomes impregnated with a solution of that salt, the oxide of thorium formed through incineration scales off and nothing but a bit of powder remains. Therefore instead of nitrate of thorium, hydrooxide of thorium must be used, which after incineration leaves a perfect, solid skeleton of hard little crystals.

As, however, hydrooxide of thorium is of a gelatinous consistency, the mantle of artificial silk can not be impregnated with it, and therefore it is first saturated with nitrate of thorium, and, through the action of ammonia, hydrooxide is formed upon the fiber. One of the greatest advantages of this new mantle is that it is not hydroscopic and is of greater durability.

Experiments have demonstrated that even two to three thousand shocks do not injure it, while the best mantles prepared by the old methods did not survive more than 90 to 100 shocks.

RAPID TELEGRAPHY INVENTION.

TELEPHONE USED FOR TRANSMITTING AND WRITING MESSAGES.

A report from Consul Joseph I. Brittain, at Prague, states that the European papers have been devoting considerable space to the invention of a Hungarian, by which it is said the inventor may transmit 40,000 words per hour over a telephone. The consul furnishes the following description:

The machine consists of three parts, a perforator, transmitter, and receiver. The first may be worked by a typewriter, while the other two are automatic, working through the agencies of electricity and photography, and the instrument may be connected by an ordinary telephone line.

Through operating the keys of the perforator the operator writes messages upon a long paper ribbon. By touching the keys a series of holes are punched in the ribbon, each set of holes representing a letter.

After taking the ribbon from the perforator, the inventor places it in a small cylinder in the transmitter, and a touch of the switch sets the cylinder revolving and the ribbon with it. Before the ribbon has completely passed through the transmitter, a second broader strip of sensitized paper issues from the receiver, and upon it is written in plain legible characters the actual message which the inventor or operator has written on the typewriter. It is claimed that messages may be thus transmitted hundreds of miles, as well as short distances.

It is said the inventor has discovered a means of harnessing light to electricity, by which a tiny spot of light hundreds of miles away is controlled as readily as when close by.

ADDRESSING CONSULAR OFFICERS.

OWING TO CHANGES THE NAMES OF THE OFFICIALS SHOULD NOT BE USED.

With the many changes now occurring in the consular service the following from Consul Isaac A. Manning, at Cartagena, is timely:

The habit of American business concerns in addressing correspondence of a commercial character to consular officers in their own names makes it impossible for a new occupant of a post to distinguish between letters of a personal and letters of a public character which may come addressed to his predecessor. If the letters are of a personal nature, his successor does not desire to open them. If they are of a public character and are forwarded to the former consul at his new location, he is put to the unnecessary and sometimes burdensome expense of repaying postage thereon at the rate of 5 to 10 cents per half ounce on letters which interest him not at all in his new station.

This also means delay in the correspondence and oftentimes loss of the letter. Commercial houses should address all mail simply "American Consul-General," "American Consul," etc., or in case of using the name of the consul, stamp or write the words "official character" on all mail.

NEW TECHNICAL DICTIONARY.

PROGRESS IN THE PREPARATION OF A GERMAN REFERENCE WORK.

Consul-General Richard Guenther, of Frankfort, notes that at the annual meeting of the Association of German Engineers lately held at Dresden, announcement was made that the great work of compiling and publishing the new technical dictionary, which was conducted under the auspices of the association, had to be stopped because it was found that the expenses would amount to more than four times the estimates. Mr. Guenther adds:

The great progress in science and industries had created a vast mass of new terms and matter largely in excess of what had been estimated at the beginning. This stoppage is to be greatly regretted, as the want of a new technical dictionary and encyclopedia is acutely felt by thousands of persons engaged in scientific research, in all lines of commerce and production, in literature, journalism, and in the administration of State and municipal government.

It is, however, satisfactory to note that the executive board of the Association of German Engineers has made strenuous efforts to take up and complete this valuable work, and has succeeded in obtaining therefor the aid of the Federal Government of Germany and of the Ministry of Education of the Prussian Kingdom.

PARCELS POST.

THE CONVENTION WITH FRANCE.

The following order has been promulgated by the Post-Office Department in relation to the parcel-post convention between the United States and France, which became effective August 15:

Parcel-post packages for destination in France will be admitted, on and after August 15, 1908, to the mails for France made up in and dispatched from this country.

"Parcels" exchanged between the United States and France must not weigh more than 4 pounds 6 ounces, nor measure more than 3 feet 6 inches in length, and 6 feet in length and girth combined.

Postage must be paid in full at the following rates, viz: In the United States, on parcels for France, 12 cents for each pound or fraction of a pound; in France, on parcels for the United States, 2 francs for every parcel not exceeding 2 kilograms (4.409 pounds).

A delivery charge not exceeding 5 cents in the United States, or 25 centimes in France, may be collected of the addressee of each parcel.

Parcels for or from France can not be registered.

The parcel-post regulations, as modified by the Postmaster-General's order, dated May 9, 1908, apply to parcels for France.

Two copies of the customs declaration must be attached to each parcel for France, as is required in the case of parcels for Salvador. Parcel-post mails for France will be made up at the post-office of New York.

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FOREIGN COMMERCE.

GERMANY.

WORK OF COMMERCIAL AGENTS.

ACTIVITY OF THE GOVERNMENT REPRESENTATIVES STATIONED ABROAD.

Consul-General Richard Guenther, of Frankfort, has translated the following extracts from the report of the commercial experts attached to the German consulates-general at Sydney, Australia, and New York City. The Australian report covers May 8 to December 31, 1907. The expert spent forty days of that period in making an investigation tour in South Australia. He says:

As this establishment is getting to be better known, the number of inquiries directed thereto is constantly increasing. The journal shows 740 numbers, among which the requests for information as to the possibility of selling German goods or obtaining agents for that purpose are very numerous. Of requests of this nature, 234 have been definitely attended to. They represent all sorts of manufactured goods, edibles, and liquids. In some of the more important of these applications the first reply was later on complemented by additional communications conveying further information. Twenty-four inquiries were received from German firms who are interested in purchasing raw materials produced by Australia. Twenty-eight inquiries concerned customs duties, legal ordinances, and other matters affecting trade. This bureau gave information in 38 cases where the credit, standing, and business capacity of Australian firms was inquired into by export houses in Germany.

There were 26 cases in which the expert acted in adjusting reclamations on goods imported from firms in Germany or in recovering claims due to the latter.

Forty-one written applications from Australian firms were received and answered as to where certain goods made in Germany could be had or what markets in Germany could be opened for certain Australian products. Much more numerous, however, were the applications of this sort made in person by calling at the office of the expert or interviewing him when on his trade journeys. The Australian business circles are getting in the habit of looking upon the commercial expert as an intelligence office on German commercial and industrial matters.

Most of these personal inquirers wish to know where the supply sources of German manufacturers and other products are located. To promote the sale of these, the sample collections and descriptive books of 170 manufacturing firms in Germany are placed on exhibition in the office of the expert, which led to the placing of orders. Thus the expert has been enabled to secure new customers for the firms represented by these samples.

It is also a matter affording satisfaction that the calls upon the expert by German merchants and commercial travelers visiting Australia are becoming more frequent. They come to seek informtion and advice.

REPORT OF THE NEW YORK EXPERT.

The annual report of the Commercial expert attached to the German consulate-general at New York, as far as it is published in print, states the following:

The year 1907 brought an increased activity to the two commercial experts attached to the Imperial consulate-general in New York. The increase of the

correspondence is marked by 2,515 cases against 1,993 of the preceding year. These numbers do not give a full view of the written work, as the replies to a single inquiry received are often quite numerous. The verbal information imparted and the many personal interviews and researches have again consumed much time and labor of these officials.

The written replies to inquiries from Germany concerning the prospects of selling German goods in the United States numbered 742 against 628 in 1906. Besides this, there were answered in writing 252 letters from American firms asking for the addresses of manufacturers or supply sources in Germany. We can estimate that 1,400 German firms have, through the activity of this commercial office, obtained written information as to possible opportunities of disposing of their goods in this country, and from 235 replies of thanks which were received from these inquirers it may be augured that considerable success has attended the correspondence. The inquiries received about patents and their exploitation, about customs duties here and in Germany, business usages, American manufacturers, the obtaining of situations in commercial and manufacturing houses, etc., exceeded in number the applications this office received in 1906.

In 1907 this office sent 71 reports to the Government against 33 that were issued the year before. No time was found during last year to make journeys for study or information. Both of the experts were strenuously employed during the whole year in mastering the increasing work and found no opportunity to take a vacation. The main task incumbent upon these commercial experts is to promote the sale of German products in foreign parts. The experience gained by the experts proves that this task can be successfully accomplished if the inquiries that come to hand are carefully, methodically, and promptly treated. The inquiries are of two sorts: (1) Those coming from manufacturers and exporters in Germany who seek customers in the United States; and (2) those from American firms desiring to learn of the origin of goods made in Germany with a view to purchase. Naturally the first of this sort of inquiries form the largest and most important part of the informatory work of the experts. But the second sort of inquiries is also of much importance, as these inquiries tend to show that the goods in question are actually in demand and can be sold.

The reports written by the experts to their Government treated chiefly of the following subjects: General business conditions in the United States; Germany's trade relation with the United States; customs duties and tariff matters in the United States; expositions, fine arts, and art productions; machines and metallic industries; leather, paper and other manufactures; textile industries; agriculture; minerals and the working of them in the United States.

SOUTH AMERICAN EXPERT REPORTS THAT INQUIRIES ARE NOT EXPLICIT.

The commercial expert attached to the German consulate-general at Valparaiso, Chile, reports that from March 6 to December 31, 1907, he answered 249 commercial inquiries and issued 35 written reports. In regard to the inquiries he says, in his annual report:

The inquiries received are in almost all cases not sufficiently explicit, making it very difficult to answer them satisfactorily. As a rule they are accompanied by catalogues, price lists (sometimes with supplies of merchandise), etc. But dealers in Chile being flooded with offers from manufacturers in Germany will rarely accept agencies for the sale of goods or take any interest in catalogues, samples, etc.

It is well to mention that it is not the business of the expert to furnish reports to newspapers, associations, etc., at home for their special purposes. The foreign banks in Chile complain that the commercial travelers are not always precise in giving terms of sale when taking orders, and that they often sell to small firms whose business does not warrant direct importations. In consequence of these practices the banks are impeded in collecting accounts.

TECHNICAL EXPERTS STATIONED ABROAD.

Germany has stationed experts at the following consular posts:

Commercial experts—one at each of these cities: Rio de Janeiro, Shanghai, Calcutta, Johannesburg, Sydney, Yokohama, Buenos

Aires, Valparaiso, Constantinople, Chicago; two at New York and two at St. Petersburg; total, 14.

Agricultural experts are attached to the following German consulates: Copenhagen, London, Paris, Rome, Chicago, Montreal, and Cape Town; total, 7.

Germany's experience with these experts is highly satisfactory, and this system of promoting her economics will be gradually extended.

INCREASED EXPORTS.

RAPID GROWTH OF SHIPMENTS FROM CHEMNITZ TO UNITED STATES.

Consul Thomas H. Norton, of Chemnitz, reporting on the exports of that consular district, calls attention to the large purchases in Saxony by the United States of hosiery and gloves:

The value of exports to the United States certified at the Chemnitz consulate amounted during the fiscal year 1907–8 to $13,795,770, a figure far in excess of any hitherto recorded.

The totals reported for fiscal years ending June 30 are as follows:

Year.	Value.	Year.	Value.	Year.	Value.
1900	$5,076,079	1903	$8,144,186	1906	$9,034,588
1901	5,676,485	1904	6,904,585	1907	11,906,089
1902	6,081,788	1905	6,577,385	1908	13,795,771

The remarkable expansion of the Chemnitz exports to the United States has been the chief cause of the exceptional prosperity enjoyed by the city and its tributary territory of late.

The following statement of the exports by quarters shows that the maximum of trade was reached during the first quarter of 1908. The effects of the business depression on the other side of the Atlantic were plainly evident at the close of this period, and the succeeding quarter exhibited a serious shrinkage. The total value of exports sank to less than one-half of the average amount of the preceding four quarters. This retrograde movement reached its lowest ebb in May. Since then there has been a steady recovery, and there is a prospect that during the current fiscal year the trade of Chemnitz with the United States will at least equal that recorded in 1905–6.

Following are the exports by quarters for the fiscal years of 1907 and 1908:

Year.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
1907	$2,981,286	$2,778,210	$2,743,241	$3,403,351	$11,906,089
1908	4,060,539	3,497,698	4,291,766	1,945,766	13,795,770

HOSIERY AND GLOVES CHIEF EXPORTS.

American dry-goods firms maintain local offices and resident agents at Chemnitz, and wares to the value of $1,251,975 purchased outside of this consular district on orders from these agents are certified as coming from the Chemnitz consulate.

The chief exports of Chemnitz are gloves and hosiery. Their combined value is $12,024,680, and constitutes 87 per cent of the total value of exports. The noteworthy increase in the export of these

articles is confined to those manufactured from cotton. The exports of silk and woolen gloves and hosiery show a marked diminution in comparison with the values of the preceding year. There is a similar lessening in the volume of exports of underwear, upholstery goods, dress goods, dolls, trimmings, beaded goods, toys, and calfskins. Increases are recorded in the export of artificial flowers, paper goods, textile machinery, knitting-machine needles, and combing cards for wool.

PAPER COLLARS AND CUFFS.

AN OPPORTUNITY FOR THOSE OF AMERICAN MAKE.

Vice-Consul-General Charles A. Risdorf, of Frankfort, suggests that, with proper effort, American manufacturers of paper collars and cuffs could secure a large trade in Germany and other countries. The exports of German paper collars and cuffs in 1907 amounted to 2,856,289 pounds, viz: European Russia, 1,569,895 pounds; Argentina, 445,392 pounds; Netherlands, 383,379 pounds; Switzerland, 195,767 pounds; all other countries, 261,856 pounds. Catalogues, illustrated samples, and samples of cuffs and collars are filed for inspection in the Bureau of Manufactures.

FRANCE.

COMMERCE OF RHEIMS.

REACTION CHARGED TO THE CRISIS IN THE UNITED STATES.

The following information, furnished by Consul William Bardel, is derived from the semiannual report of the Chamber of Commerce of Rheims:

After stating that French wool, at the end of the first six months of 1908, is sold at a reduction in price of 25 per cent as compared with the same period in 1907 the chamber of commerce reports on the condition of the spinning and weaving mills. It declares that the reaction brought about by the crisis in the United States has caused a sudden stoppage in the orders for spinners of combed wool. Notwithstanding a number of contracts being still held by these establishments for orders at fairly advantageous conditions, they were not sufficient, and it was found necessary to reduce the work in the mills to five days per week and to accept orders at rather disastrous prices, the buyers simply being unable to do better.

The spinners, after a fairly long time of prosperity, were forced to decide between the gloomy prospects of having to discharge their workmen or else lose money daily by ruinous terms. It can not be determined whether the cause of this unfortunate situation is simply to be found in the American crisis or if it is only the signal of a natural reaction after an extended period of continuous advances of prices of the output of the spinners.

TRADE IN SILK THREAD, WOOLENS, AND CHAMPAGNE.

The trade in silk thread was rather unsatisfactory during the six months, and prices have again suffered a decline of from 12 to 15 per cent. At the end of June the situation was still a very unpromising one, and a complete shut-down in the near future is talked of.

In unbleached textile fabrics, such as merinos, Scotch cashmeres, and woolens, the betterment reported at the end of the December six months was not of long duration. There were some small orders at prices favoring the buyers. But the fear of a further drop in prices brought about a new suspension of all transactions, and the conditions of the market from March until May were such that general disorder prevailed, which caused prices to sink from 10 to 25 per cent, according to the class of goods, and some common and defective grades of woolen goods suffered even more. After May 1, when raw wool advanced again in price, it became perceptible that there was no cause for panic and alarm, but, nevertheless, very little has been accomplished since, and everybody hopes for an early betterment of affairs in that branch of industry.

The trade in champagne was not prosperous during the first six months of 1908. The sales to England during that time suffered a reduction of nearly 75,000 gallons as compared with those of last year. This decrease is to be attributed to the universal depression visible in all markets, and particularly in the trade of articles of luxury.

As regards the United States, the new commercial convention recently concluded between them and France, has granted a reduction of $2 per box for French champagne in the tariff duty payable the United States, a reduction which Germany had already enjoyed for several months before. Although the sale of French champagne to the United States has suffered a serious reduction as compared with that of former years, the reduction in the tariff duty accorded the French champagne is thankfully received, inasmuch as it assures the manufacturers of French sparkling wines that now all are treated alike.

After the most promising conditions for a fine crop of grapes subsequent inclement weather has almost totally ruined the crops. Mildew and other cryptogamic diseases have hurt the grapes to a ruinous extent. The small wine grower will have a sad time of it this year. The shortness of this year's wine crop will, however, have little or no effect on the supply of champagne. There is enough of stock in the various cellars in this district to last for the next six years.

The industries in this district which go hand in hand with that of champagne, such as glass blowers, cork manufacturers, etc., report decreases in their sales during the first six months of this year.

TRADE OF ST. ETIENNE.

INCREASE IN THE OUTPUT OF RIBBONS AND ARMS.

The following information concerning the ribbon, firearms, and metallurgical industries of St. Etienne in 1907 is furnished by Consul William H. Hunt:

Throughout this region there is a tendency toward decreasing hours of labor, accompanied, in most cases, by demands for an increase in wages. In the coal mines the shift for underground workmen does not exceed nine hours, whereas it formerly consisted of eleven or twelve hours.

The number of persons employed in the coal mining industry in this consular district is estimated at 19,178, of which 12,226 work

underground and 6,952 above ground. The miner's workday is nine hours, from 6 a. m. to 3 p. m., including three-fourths of an hour's rest.

RIBBON INDUSTRY.

According to statistics furnished by the St. Etienne Ribbon Manufacturers' Association, the production of ribbons of all kinds for the year 1907 amounted to $21,470,086, which is an increase of $2,318,605 over the returns for 1906, due to the large number of orders received and increase in the price of the manufactured article. There was an increase in wages during the first six months of the year. The exports are valued at $8,197,879, an increase of $1,943,052 over the previous year.

The number of persons employed in this industry in the Loire and adjoining departments is estimated at 100,000. Ten hours constitute the working day. In the country districts the hours of labor are much longer.

There is an increasing number of looms run by electric motor power in the region, viz, 11,614 looms, employing about 5,000 horsepower during 1907.

The following table shows the value of the total ribbon output for the year 1907:

Articles.	Home consumption.	Exported.	Articles.	Home consumption.	Exported.
Ribbons:			Ribbons—Continued.		
Black silk	$1,118,498	$686,957	Elastic	$366,893	$247,233
Black silk, mixed	455,094	65,041	Silk piece	38,600	11,580
Plain colored silk	4,431,010	2,327,861	Silk mixed with cotton	1,279,590	217,125
Plain colored silk, mixed	1,169,580	587,781	Velvet silk	177,753	24,126
Fancy silk	956,231	741,527	Velvet, mixed	676,079	356,664
Fancy silk, mixed	385,228	498,353			
Silk sashes	12,159	965	Total	12,651,133	7,883,867
Silk sashes, mixed	25,640	6,961	Ribbon manufactures near St. Etienne	621,074	314,012
Velvet satin back	145,715	399,124			
Velvet satin back, mixed	749,033	1,276,888			
Silk trimmings	362,178	357,131	Grand total	13,272,207	8,197,879
Hat bands	301,852	78,551			

RAW SILK, COTTON, ARTIFICIAL SILK, AND BRAIDS.

The amount of cotton thread employed in the manufacture of ribbons was 1,212,530 pounds, valued at $772,000.

The quantity of raw silk which passed through the Silk Conditioning House in 1907 was 2,452,917 pounds, a decrease of 120,794 pounds compared with 1906.

The production of artificial silk is estimated at 440,980 pounds, seven-tenths of which was consumed by the braid manufacturers of Saint Chamond and Izieux. The manufacture of braids and laces was very active during 1907; the production is valued at $5,211,000, which is an increase of $965,000 over the figures for 1906. There are about 4,000 persons employed in these industries.

FIREARMS AND METALLURGY.

The firearms industry also shows an increased output over the previous year. The number of arms (shotguns, revolvers, etc.) which passed through the state control office is estimated at 88,838 pieces.

The value of the arms exported was $386,000. A number of new factories are being built to meet the increased demand for these

articles, and the old establishments are putting in new and improved machinery, some of which is American.

There has been some difficulty in securing skilled workmen in this line. The wages vary from $1.15 to $1.54 per day of ten hours work.

The production of the steel mills of this district for 1907 was as follows: Crude material, 197,252 metric tons; finished material, 120,795 tons; against 181,930 and 100,777 tons, respectively, for 1906.

The mills have filled some large orders for marine artillery destined for battle ships of the Danton type, and commenced the manufacture of armor plate for this class of vessels. Orders for railway material have also increased. On the other hand, there was a falling off in orders for war material from foreign powers.

With the exception of scrap iron, there was a decided increase in the price of all raw materials. The price of coal advanced 10 per cent over 1906, and 30 per cent compared with the year 1905. The price of coke advanced from $4 to $6 per ton. This rise is attributed to various causes; among others increased consumption, decrease in output, increased wages, and the increasing obligations arising from the new labor laws.

INSTRUMENT PURCHASES.

INSTRUMENTS OF OBSERVATION, PRECISION, ETC., ADMITTED FREE.

Consul-General Robert P. Skinner, writing from Marseille, says that it appears not to be generally known that instruments of observation and precision, calculating, optical and surgical instruments, and chemical instruments for laboratory use are admitted into France free of duty. As to the American trade possibilities, he says:

This is one of the few lines of manufacture in which exporters from the United States are placed upon the same footing as exporters from European countries generally. Notwithstanding this circumstance, and the further fact that American instruments are very highly regarded by professional men acquainted with their merits, the share of the United States in the total trade is inconsiderable, practically all of the imports being received from Germany. The following are the official figures showing the importations of optical and calculating instruments and instruments of observation and precision into France for the past three years:

Imports—	1907.	1906.	1905.
From all countries.....tons..	265	245	224
From Germany alone.....do....	225	217	221
Total value of imports.....	$537,505	$498,133	$455,673
Value of imports from Germany.....	$465,709	$447,760	a $458,761

a There has evidently been an error in calculating German trade for 1905; the official figures are as given, however.

I am informed by local dealers that these goods are obtained exclusively from Paris, where the importers are located, and I seriously doubt the possibility of creating a demand for American goods by other than personal representations to buyers. [The addresses of the chief dealers in these lines in Marseille may be obtained from the Bureau of Manufactures.]

UNITED KINGDOM.

FIRE APPLIANCES IN DUBLIN.

PROBABLE OPENING FOR INTRODUCING AMERICAN CONTRIVANCES.

Consul Alfred K. Moe, of Dublin, points out the following opportunity for the introduction of American fire-fighting mechanisms in Ireland:

During July a number of large fires have occurred in the city of Dublin, and in the town of Kilkenny a disastrous fire took place a few months ago, and again, another fire damaged many houses in the town of Clonmel.

It seems an opportune time for American manufacturers of fire-extinguishing appliances and steam pumping engines to survey the Irish field. Hitherto not much attention has been paid to the subject of fires, as it was the general opinion that fires in a city constructed chiefly of stone buildings would have little chance of doing destructive damage to property. In nearly all the fires that have occurred here the fire department has succeeded only in confining the flames to the building; and in nearly every instance the fire has completely destroyed the premises originally attacked. With appliances and engines such as are used in the large cities of the United States the percentage of loss by fire would be reduced to a minimum.

Many fire insurance companies have offices here, and it would require no effort to have these companies consider any new means or improvements in apparatus for fire fighting. European inventions are being exploited and may have success in placing themselves in this country. A safety nonexplosive reservoir company has placed on the market a new contrivance for the purpose of preserving any kind of receptacle containing inflammable liquids, and of guarding against the still greater danger arising from the scattering of inflammable liquids. The use of this patent is compulsory on the Continent wherever gasoline or other inflammable liquids are transported or stored in quantities, and the home office of the British Government is now experimenting with it. The London fire brigade has fitted it to its motor appliances and its use has been specified in the London County council's estimates for next year.

HAND EXTINGUISHERS AND ALARMS—FIRE STATISTICS.

A certain hand fire extinguisher has been advertised here in connection with its exhibition at the Vatican, which was successful to the extent of being installed there. It is said that many thousand fires have been extinguished by its use since 1904. A certain automatic fire-alarm system, without human agency, notifies instantaneously the fire department on the slightest outbreak; and its efficiency may be gathered from the statement that insurance companies here give maximum rebates where the system is installed.

The average number of fires, from a report issued in 1860, is stated to have been 29. The chief of the fire brigade in Dublin, in his report for last year, states that there were 162 fires in the city. In addition to these 162 fires, there were 12 false alarms, and 69 chimney fires. The appliances for extinguishing fires are said to be perfect, yet there seems reason to believe that American fire-fighting apparatus could be introduced into Ireland with success. In the matter of grenades and similar devices, the best plan for advertising would be

by actual demonstration of the article's efficiency. Private dwellings are not all equipped for speedy fire extinguishing as they are in the United States, and only in a few office buildings have I noticed any effort to provide against possible outbreaks of fire.

BELGIUM.

AMERICAN EXPORTS.

SEVERAL LINES WHICH WOULD FIND A GOOD MARKET.

Upon careful investigation Consul-General Ethelbert Watts, of Brussels, finds that many American goods are sold in Belgium through German and English agencies, thus subjecting exporters to unnecessary expenses and charges in placing their goods in that very important market. Mr. Watts continues:

American shippers should have their agents in this country and ship direct to them via Antwerp and thereby be better able to compete with other foreign goods. American special machinery, automatic tools, and hardware would probably meet with good success here. Plumbing and house-heating materials, paints and varnishes, tinned meats, vegetables, and fruits, also salted and dried meats and dried fruits are in demand in this market. Brushes for domestic and industrial purposes and American novelties of all kinds are very popular. Agricultural machinery and vehicles generally, especially light buggies, are known and are very popular, but not nearly enough exploited.

Fresh meats are exceedingly high in this city, consequently petitions have been made by the different communes praying the Government to rescind the law compelling American cattle landed at Antwerp to be slaughtered in Antwerp and to permit them to be delivered alive in this city, a distance of only 44 kilometers (27½ miles), which will probably be granted and increase the demand for American beef here.

Although it seems anomalous to speak of introducing American carpets in Brussels, yet I believe a good market could be found for them here, insomuch as the old famous Brussels carpets are no longer made here and those made at Tournai and elsewhere in this country are sold at very high prices. In view of the coming international exposition to be held in Brussels in 1910, which will make this very accessible city a center of attraction in Europe, it may be well for American exporters to begin now to prepare for this.

TRADE IN FIREARMS.

SUBSTANTIAL PROGRESS IN MANUFACTURE AND SALE TO OTI OUN

From the reports for 1907 Consul H. Abert Joh n, of L
says that it appears that the Belgian firearm inc y
in a highly satisfactory manner. Receipts at t
station amounted for the year to 1,000,000 f
far in excess of anything that could have been ho
ago. The consul continues:

While in England, Germany, Austria, and S
firearms are far from satisfied, in Belgium, on
tion seems most promising. This is all the

ering the present industrial depression in this section of Europe—a depression particularly marked in the iron and steel industries of Belgium. Happily, however, the future looks encouraging, and it is said that large and important orders are expected before the end of the present year.

The new proving grounds, now nearing completion, will open its doors to the Liege gunmakers some time in September. It is classed among the most important institutions of its kind in Europe and will unquestionably redound to the credit of the city of Liege and Belgium's important firearm industry. Its inauguration will be an important function and attended by Prince Albert, who at the time of his last visit to the Liege School of Gunsmiths (Ecole d'Armurerie) manifested his interest in this important branch of Belgian industry.

The value of the exports of firearms and gun barrels to the United States during 1907 amounted to $412,450, an increase of $70,039 over those of 1906. It may be noted that this increase was confined to gun barrels, which advanced from $108,191 to $195,411, while the value of arms exported shows a decrease of $16,181. The following table shows the number of arms of different classes tested at the proving station:

Description.	1906.	1907.	Description.	1906.	1907.
Shotgun barrels (single)	98,373	133,260	Pistols	135,068	158,414
Flobert rifles	101,494	92,334	Musket barrels	137,645	187,890
Shotgun barrels (double)	287,115	324,400	Military small arms	6,955	14,485
Horse pistols	62,122	93,338			
Revolvers	763,978	575,356	Total	1,592,750	1,579,477

NORWAY.

CEMENT TRADE.

PRODUCTION, IMPORT AND EXPORT, AND HOME CONSUMPTION.

Consul Felix S. S. Johnson, of Bergen, finds that according to the customs committee report of the Storthing the following statistics show the production and consumption of cement in Norway since 1880:

Year.	Sale of product.	Import.	Export.	Total consumption in country.
	Fad. [a]	*Fad.* [a]	*Fad.* [a]	*Fad.* [a]
1880	.....	33,000	.....	33,000
1885	.....	40,000	.....	40,000
1890	.....	79,000	.....	79,000
1891	.....	79,000	.....	79,000
1892	.....	91,000	.....	91,000
1893	12,000	92,000	.....	104,000
1894	37,000	79,000	.....	116,000
1895	55,000	81,000	.....	136,000
1896	73,000	89,000	.....	162,000
1897	91,000	110,000	.....	201,000
1898	110,000	149,000	.....	259,000
1899	108,000	198,000	.....	306,000
1900	100,000	144,000	315	253,000
1901	100,000	123,000	122	223,000
1902	129,000	112,000	141	241,000
1903	118,000	105,000	402	223,000
1904	129,000	75,000	1,408	204,000
[illegible]	143,000	81,000	36,670	224,000
[illegible]	180,000	69,000	37,900	249,000
[illegible]	204,000	98,000	7,800	294,000

[a] 1 fad equals 170 kilos, or 375 pounds net; 180 kilos, or 397 pounds gross.

The Storthing voted to lower the customs duty from 50 öre to 20 öre per 100 kilos (from 13 to 5.2 cents per 220.46 pounds).

GROWING IMPORTS OF BERGEN.

Consul Johnson also makes the report that the values of imports into the Norwegian port of Bergen for the years from 1897 to 1907 were as follows:

1897	$10,724,208	1901	$13,264,821	1905	$15,088,320
1898	12,253,442	1902	12,804,129	1906	16,540,129
1899	13,939,243	1903	13,649,830		
1900	14,141,342	1904	13,904,805		

ITALY.

FOREIGN TRADE.

CONSIDERABLE DECREASE IN BOTH THE IMPORTS AND EXPORTS.

The official figures of importation and exportation for the first six months of the year have just been published by the Italian customs office at Rome, from which Consul D. R. Birch, of Genoa, has prepared the following summary:

A decrease is shown in both branches, the imports having been lower by $8,299,000 as compared with the first half of 1907, while Italian exports fell $9,109,600 below the aggregate sales of January–June of last year. The value of the principal imports from other countries for the half year was:

Raw cotton, $33,080,200; machines and railway vehicles, $28,834,200; coal, $24,182,900; grain and wheat, $16,019,000; lumber, $11,869,500; raw silk, $11,425,600; wool and hair, $10,074,600; old iron and pig iron, $4,851,000; copper, $4,998,700; skins, $4,921,500; sulphate of copper, $3,030,100; seeds, $2,991,500; horses, $2,952,900; mineral oil, $2,855,000. Decreases were noted in grain, cotton, silkworms, skins, silk fabrics, and jute, but the importation of machinery, lumber, copper, phosphate, wool and woolen fabrics, and raw silk was greater than for the same period 1907.

The exports amounted to $173,217,500, demonstrating a falling off of sales of Italian articles abroad of $9,109,600. Of this figure, $4,323,200 represented decreased sales of raw silks. Cotton fabric manufacturers also suffered, their foreign sales amounting to $2,605,500 less than during the first half of 1907. Cheese and olive oil are mentioned among the other staple articles of Italian export in which less business was done.

EXTENSION OF AMERICAN T[illegible]ADE.

EXPORTERS SHOULD EMULATE THE SUCCESSFUL

Consul C. S. Crowninshield, of Naples, submits t
port in regard to the extension of American trade in
foreign countries:

The classes which seem to be preeminently i
ject are American tradesmen and manufactu
have often remarked upon this indifference.
that the writer has been consul here t
only two American agents who were in
eign business of the firms which they r

persons spoke Italian or Neapolitan. Their success in establishing trade connections was slight.

This consulate is inundated with letters and catalogues from American firms who wish to increase their foreign business. The catalogues are placed on file, as requested, but they are never asked for or consulted. The post-office department is the sole gainer.

Other countries adopt different methods. English and German houses send experienced salesmen, who speak the language and are thoroughly capable of canvassing the market and establishing the desired connections. Their system is successful. Until the American exporter takes an intelligent interest in the extension of his trade and shows himself conversant with European methods, the American consul (with the best will in the world) can be of small use to him.

TURKEY.

HANDLING OTTOMAN ORDERS.

UNBUSINESSLIKE METHODS WHICH HARM EXPORT TRADE.

Consul-General Edward H. Ozmun, writing from Constantinople, calls attention to certain questionable business methods of American houses who are seeking markets in the Ottoman Empire. He develops the point that a solid and permanent business can only be established by creating confidence and reliance among new customers on the part of the manufacturer. Mr. Ozmun's report reads:

Two orders were placed with an American manufacturer for petroleum lamps, which have a ready sale here. The manufacturer replied that he had been selling to Constantinople through a New York export house, and could only accept orders through this channel. To this was sent a reply to the manufacturer that the local branch of the New York house was no longer in this line of business, which they could have ascertained by use of the telephone, instead of wasting thirty days in correspondence. Satisfied that this was the case the order was accepted.

This manufacturer's discounts being well-known on the market, the orders were booked allowing the full rate of discount, the middleman's profit being a credit of 5 per cent commission from the manufacturer, but this was refused.

The firm wrote back stating that the local branch of the New York export house was allowed these terms, to which the manufacturer replied, that this extra 5 per cent had never been allowed to the New York export house. The firm again replied that their manager had previously been the manager of this department of the local branch of the New York export house and was aware of the terms on which orders were accepted, with the result that the order was finally accepted after four months' correspondence.

This was not businesslike, as the order might have been repeated in the meanwhile if there had been no delay. All firms dealing in the same territory should be treated alike.

PACKING WEIGHTS AND PRICES SHOULD BE UNIFORM.

A certain American firm's goods are packed for this market to suit ıe customer's requirements in slightly larger packages, viz, three-ıhths-pound weight in one-half-pound packages. This may be bor-

dering on fraudulent deception, but the consumer knows that if he buys a certain size of can or package, allowing for shrinkage, he will find a certain quantity of goods in the same. He will not buy the three-eights-pound size, because he makes the same allowance for shrinkage and nothing will persuade him that it will always be full. It may be, but only exceptionally, and he thinks that in a short time he will be paying the same price for a three-eighths-pound box with shrinkage that he now pays for a larger size.

It is known that this manufacturer's goods are sold on the market in this packing. To a recently dispatched order the manufacturers reply, "We have never sold one-half-pound tins in your market." There follows an unnecessary loss of time in correspondence and in showing the manufacturers one of their own tins of this size.

An American clock company's goods sell well on this market, but the London agency of this same firm is cutting prices in competition with the firm dealing direct with the United States. The local importer wrote to the manufacturer and offered to bind himself annually to buy a larger quantity by 20 per cent than are now sold in this market. The competition with the same manufacturer's goods from London still goes on, and while the direct importer allows credit at his discretion, he tells of a recent shipment having been sold and, although his account had not been paid, the amount due to him was used to place another order with London on cash terms.

CONSIDERATION OF AGENTS—DISCOUNT UNIFORMITY NECESSARY.

Another indiscretion may be cited. After taking an order for a certain brand of American shoes and while terms of payment were being arranged between the manufacturer and the import house, the manufacturer sent the goods on directly to the local party ordering, accompanied by a letter which was frankness itself. "You and I should do business direct. What need is there to go through a third party?" Unfortunately for the manufacturer he intrusted the shipment of the goods to a forwarding agency whose expenses were exactly double what they would have been if they had come through the local import house. Is it honorable for the manufacturer to go behind the back of the import house in this way? What about the remuneration of the import house which canvasses for these orders?

A firm making a cheap typewriter had written to this office several times addressing the consulate as a business house and desiring to sell their machines, offering to furnish a sample machine at full discounts. In one letter they mention their regret at not having received an order, and that they contemplated sending a complete agent's outfit and would allow a commission on all machines sold to persons recommended. To this a reply was sent that consular officers did not engage in business, that I had been looking for a suitable agent for their machine and gave them the name of a firm who were prepared to take up their agency and who would order a sample machine on their terms. This firm afterwards complained that they had had considerable correspondence before they could obtain the discount mentioned in the manufacturers' letter to the consulate, a smaller discount being at first offered. Eventually the machine arrived, but while the agent states that he is convinced that it is a machine suitable to this market and he is placing a trial order for 10 machines, the sample received had been sent out without adjustment. While it printed the l ch correctly, the capitals

were only half printed with part of the small letter characters showing underneath. Before sending out a machine the manufacturer should test its accuracy if necessary with a sheet of paper left in the machine showing the test and proof that it was in good working order.

The consular service is making every effort in the Turkish Empire to increase American imports by interesting local houses to handle goods from the United States, and such incidents as those mentioned are sufficient to nullify the results. Some American manufacturers are inexcusably careless in filling orders for export business and their mistakes should serve as a warning to others.

THE OPEN DOOR.

CUSTOMS RESTRICTIONS REMOVED FROM PRINTED MATTER, ETC.

Consul-General Ozmun furthermore reports that the censorship has been abolished in the custom-house, so that books, newspapers, and printed matter are no longer subjected to examination, but freely pass into the country. Further, the importation of electric appliances, telephones, and pharmaceutial substances will henceforth be allowed. Mr. Ozmun continues:

This opens up a wide and hitherto untouched field for telephone manufacturers. The need for telephones in Constantinople, where the city covers such a great area, stretching from San Stefano and Kutchuk Tchekmedje, on the Sea of Marmora, to Roumeli Kavak, near the Black Sea, a distance of about 27 miles, is at once apparent, as the means of communication are very slow. Until recently there has been no local post in this city of over 1,000,000 inhabitants, and it has been necessary to send messengers from one part of the city to another to deliver messages. The company which first succeeds in establishing telephone lines in this city will no doubt find it a profitable undertaking.

SLAVIC COUNTRY PURCHASES.

EXCEPTIONAL OPENING FOR AMERICAN TRADE IN MIDDLE EUROPE.

Deputy-Consul-General Ulysses J. Bywater, in the following report from Dresden, Germany, calls attention to the excellent chance for the establishment of a large trade in American products in the Slavic regions of Europe:

In Poland, Bohemia, Prussian Poland (Posen), and Austrian Poland (Galicia), an enormous market has recently been thrown open to the first progressive nation that will take the trouble to secure it, and success there would also open up all southern and western Russia, Eastern Germany, and Western Austria. There is evidence of permanence of this market if satisfaction is given the buyer.

The articles most easily introduced are hardware and ironmongery of all kinds, which trade has hitherto been practically monopolized by Germany. Coal is also in great demand; in one single month in 1907, 30,000 tons were imported into Poland from Germany, as no other country made offers. Textiles offer another opportunity to American enterprise. Suitings, linen, cotton goods, men's clothing, hosiery, dry goods, and shoes, could be sold.

The Central Agricultural Society at Warsaw, which represents the twenty-eight provincial societies and about 600 peasant groups in Poland, has ceased to import superphosphate and basic slag, amounting to an annual total of 40,000 tons, from Germany. This year the order went to Belgium and Holland, but here is an opening for Americans. The same society also buys large numbers of agricultural machines, and will buy more as time goes on, as peasant labor is growing so expensive that even the conservative peasant farmers are turning to machinery, buying portable engines, small thrashing machines, chaff cutters, spring-tooth cultivators, and plows in increasing quantities. Germany did a very large trade in plows, and the present opportunity is exceptionally favorable for Americans to take the market.

FRENCH ACTIVITY—BEST SELLING SYSTEM.

French merchants have set an example which might well be followed. When the market was declared open the French Chamber of Commerce sent delegates to Warsaw to open up trade with Poland. These enterprising representatives took large quantities of samples with them, visited the most important dry goods houses and returned to Paris with orders amounting to thousands of dollars. They settled questions of credits and transport, packing, customs requirements, etc., with the Warsaw Merchants' Association, and are following the German system of dispensing with the middleman.

For this trade catalogues should be prepared in Polish, Russian, and Czech, prices quoted in rubles or crowns, and the customer's attention should be called to novelties. The writer would again suggest that several American firms combine for the purpose of renting show rooms and sending representatives to foreign countries, so that the customer can see what he is buying. Goods are not sold in foreign countries by catalogues alone, especially if price lists are printed in English, with quotations, etc., in American units. The American seller must be prepared to give long credits to such buyers.

The towns from which a systematic campaign could be best directed in the district in question are Posen in Germany, Warsaw in Poland, Prague in Bohemia, and Cracow and Lemberg in Austria.

CHINA.

NEW MARKET OPENING.

ADVANTAGE OF KNOWING TASTES AND PREJUDICES OF PEOPLE.

Consul J. C. McNally, of Nankin, discussing the new conditions developed by the opening of the Shanghai-Nankin railway, urges American exporters to make a study of the situation so that they may take an intelligent part in the development of the trade of that portion of China.

While the present growing demand for things foreign in the Nankin consular district is not such as to encourage American manufacturers to ship in wholesale quantities, the tendency of the people to western ideas indicates that the time is at hand for a careful study of the local markets with a view to their profitable exploitation later on.

The advent of the Shanghai-Nankin railway, passing through the important city of Chingkiang, and traversing the richest part

of the district, brings Nankin into close communication with Shanghai. This latter city, modern and up to date in its every-day life, will reflect its influence over the conservative outport natives in the matter of foreign products. The Chinese is an inveterate traveler, and as communication with the great port city has been facilitated, he will seize the opportunity to make periodical visits, and will imbibe the tastes of his metropolitan brother.

The Nankin consular district, embracing the cities of Chinkiang, Nankin, and Wuhu, with the intervening territory, is practically a virgin field as far as foreign products are concerned. While it is true that representatives of the various European and Japanese firms are frequently seen in the district, their purpose is seemingly not to sell goods, but to study the demands of the trade, and incidentally to select a comprador to represent the firm when the opportune time arrives. This labor and the accompanying expense may seem superfluous, but the time spent now in gaining an intelligent idea of the general trade demands will prove a decided advantage later if the competition becomes keen.

HOW TO BEGIN TRADE.

Those contemplating entering the local markets, and more particularly interior places, should secure the services of a person with a knowledge of the Mandarin language, and if this is impossible, a suitable interpreter should be employed. A careful study should be made of the wants of the local dealers, their manner of doing business, the nature of the goods wanted, paying particular attention to taste as to color and sizes; but above all an attempt should be made to remove the suspicion the native has of a foreigner. It is perhaps a little early to introduce large machinery or machine tools other than those used in the erection of buildings or railways, but in the matter of the smaller articles an opening wedge could be entered.

Soap and other toilet articles would find a ready sale, while cheap articles of adornment, particularly in the hair dressing line, lighting systems other than kerosene which is now exclusively used, and the sale of which in 1907 amounted to over a million cases in the Yangtse valley, and inexpensive jewelry, might find a market.

At present all these as well as the more important foreign articles are purchased in Shanghai, the people making a personal trip to buy them. The advantages enjoyed by a firm already located there are manifest, inasmuch as they are in a position to fill a hurry order as well as to keep in stock the varied articles of usual demand.

BUILDING MATERIALS, MOTOR CARS, MEDICINES.

The coming of the railway has certainly stimulated the business of residence and schoolhouse building. One may observe throughout the whole city large buildings in the course of construction. It would seem as though the whole list of building materials would find a market in Nankin. The city will continue to grow now that it is within easy reach of Shanghai, and the municipality plans to build a public park, and open an exposition in 1909.

Of all the interior cities of China, Nankin can truly boast of having the best roads—about 42 miles in extent. Part of these roads are suitable for light motor cars and motor cycles, which up to the present are an unknown quantity in Nankin. The present system of locomotion is by ricksha or carriage. The motor car and motor cycle are a

common sight in Shanghai and are operated as well as owned by Chinese who indulge their tastes in this regard.

The good work of doctors from Western countries, as evidenced by the curing of hundreds yearly in their respective hospitals in China, has wrought a wonderful influence in behalf of the modern pellet and tabloid medicines. The various native chemist shops carry the proprietary medicines as well as those of local compound. Heretofore the British and Japanese have controlled this market in the medicine line, but the field is yet open, and the American article would, with energetic handling, share the market.

China is the natural market of the Pacific coast producers, and more particularly in the matter of manufactures. A little more effort to place their goods would show results, while an intelligent study of the various inland markets would greatly enhance their opportunities. Geographically they are as advantageously situated as any country, with the exception of Japan, and the foothold gained by that country in the markets of China could be readily lessened on account of the better quality of the American goods.

IMPORTS OF HANKOW.

SUPPLIES FROM LEADING FOREIGN NATIONS.

Reviewing the trade of Hankow for the year 1907, Vice-Consul Albert W. Pontius furnishes the following on the principal articles imported into that emporium of trade in Central China:

In brass and yellow metals a slight decrease was experienced. The United States still has a good share in importations of copper, ingots and slabs, although Japan now enjoys nearly a monopoly in this field. In iron and mild steel Great Britain took the lead, Belgium leading in the supply of bars, and the United States taking the major portion of the nail and rivet trade. The English manufacturers took as their share the majority of the corrugated iron sheet imports, and a considerable decrease in this article of import was experienced. Great Britain took nearly 70 per cent of the importations of lead and unmanufactured nickel, while the United States showed a good increase in the importation of tin plates and sheets.

In bicho de mar (trepang fish) the Philippine Islands made a creditable showing, and a steady increase in the receipt of this article can be looked for. The importation of building materials decreased, owing to lack of demand, which affected the American manufacturers. The demand for these goods will be a steady one, as the Chinese have now become more accustomed to foreign methods of house fitting and construction. In locks, hinges, bolts, screws, and goods of a like nature the American manufacturer has displaced the English and German importation to a considerable extent, and with no likelihood of being supplanted in the future. Their cheapness and durability have already attracted the notice of the Chinese consumer, and this being accomplished, a steady demand is certain to result.

France came in for the major share of the butter importation. The trade in buttons, brass and fancy, decreased nearly 50 p[illegible] the preceding year's figures, and the German manufa[illegible] a monopoly of the field, was the chief los[illegible] foremost in the importation of candle[illegible] of this article was also felt. Th[illegible]

and watches experienced the usual demand in this article of import, and a little more attention paid to the Chinese consumer in this regard would surely be productive of increased sales.

GINS, ELECTRICAL FITTINGS, FLOUR, ETC.

Great Britain led in importations of cotton gins and parts, and this trade was due no doubt to the activity of the local agencies. Germany had an excellent trade in aniline dyes and artificial indigo, and her manufacturers have secured a permanent hold in this class of import trade. Electrical fittings showed a slight decrease, but the American manufacturer gained a better foothold on certain articles of this trade. The small 12 and 16 inch desk fans, wall sockets and plugs, switches and minor fittings are now commonly seen throughout the foreign concessions in Hankow. In main fittings, etc., the American manufacturers can not successfully compete with the German product.

Not much American flour finds its way to this district. This is partly due to the product turned out by local flour mills and to the fact that the Chinese in this section have an abundance of cereals of native growth. There was a large importation of locomotives and railway cars in 1907 for the use of the Hankow-Peking Railway.

In machinery and fittings, a good increase was shown, England ranking first in their importation. Japan also shipped in a considerable amount for the Japanese bund works. A good portion was also purchased from England for use of the waterworks. While this importation is naturally a fluctuating article, and has been greatly augmented by reconstruction of the Hanyang Ironworks and the establishment of large factories during the last three years, there is a steadily growing demand for machinery on more general lines, and several showrooms have been opened.

In match-making material and the importation of coal Japan again ranked foremost. The German manufacturer experienced an increased trade in needles, the total importation amounting to $120,000. American oil and lumber showed a large increase, and the former has more than strengthened its control of the market in this regard. Railway materials and ties were imported to the extent of more than $550,000, Belgium leading in the former and Japan in the latter. In bar and fancy soap the English manufacturers ranked foremost, and the demand for their goods in this line is a steady one.

More than $2,000,000 worth of sugar was imported in 1907, Hongkong supplying the chief share. A large increase in the importation of Ceylon, Indian, and Java tea dust was experienced and points to an increasing taste on the part of the brick tea consumers for this blend.

IMPORTATION OF UMBRELLAS.

THE FOREIGN PRODUCT IN GROWING DEMAND AMONG THE CHINESE.

Vice-Consul-General Willard B. Hull, of Canton, furnishes the following information concerning the trade in foreign umbrellas in China:

This district, as well as all China, affords a good market for umbrellas of a medium or cheap grade. The Chinese are giving up the use of their old oiled-paper umbrellas, and it is surprising

to-day to see the number of foreign-made umbrellas used, of which Germany and Japan supply the bulk. From Japan the exports of umbrellas to all countries increased from $343,500 in 1898 to $806,500 in 1907, gold. The umbrellas shipped to Shanghai are rapidly extending their market into the interior via Hankow, and in the south they are imported into Hongkong and are distributed through Canton and Amoy. During the past year or two an improvement has been effected in the quality, the handles being ornamented with nickel work and a better finish given to the wood. This improvement was found necessary by the Japanese, who had previously been manufacturing them with a view to cheapness rather than quality. This consequently made prices go up.

The price of umbrellas exported to North China, which at one time was about $150 gold per case of 30 dozens, has increased by about 20 per cent.

In South China German umbrellas offer a strong competition to the Japanese, and, as the Japanese makers maintain a brisk competition among themselves, prices here have dropped considerably, and the quality has thereby depreciated much below that of the German umbrellas. This has in some ways been detrimental to the trade in South China, but, nevertheless, there continues to be an increasing number of umbrellas imported into this district.

IMPORTS OF UMBRELLAS.

During 1906 there were imported into Canton 76,210 umbrellas, valued at $33,552, which increased to 78,280, valued at $34,382, in 1907, while during the first six months of 1908 there were imported 60,854, valued at $26,094.

The entire number and value of umbrellas imported into China during 1906 and 1907 were as follows:

Whence imported.	1906.		1907.	
	Number.	*Value.*	*Number.*	*Value.*
Europe	469,285	$218,116	712,897	$322,811
Japan	1,380,111	375,744	1,102,333	322,154

As shown above, Japanese umbrellas are a much cheaper product and made, as is considered necessary for the Chinese market, with a view to the price and not the quality. They are mostly made with inexpensive wooden handles, steel rods, and cotton covers. The imports during 1907 would, however, indicate that there is an increasing demand for the European-made article and that the Chinese are willing to pay more for a better quality.

RUBBER SHOE PURCHASES.

EXCELLENT MARKET OPENING IN SOUTHERN PART OF EMPIRE

Consul-General Amos P. Wilder, reporting from Hongkong [illegible] that the extent of importations of india-rubber [illegible] south China has long been considerable, and [illegible] can exporters have enjoyed a large part of [illegible] enters upon a discussion of the trade [illegible]

The customs returns for 1906 [illegible] through the Canton custom-hou[illegible]

kong" of 404,522 pairs with a value expressed in United States currency of about $242,615. This is surely a trade worth cultivating. Practically all these importations pass through Hongkong. The North British Rubber Co. Ltd., is doing a large part of the business at present, their goods being sold through an English firm here which guarantees the sales and receives a commission for their services. Brand or "chop" plays a large part with the Chinese in buying rubber boots and shoes as in all else.

In 1902–3, owing to a shortage of supply for some reason from England and the Continent, other brands got in, including American rubber goods. Since then other attempts, some on a large scale, to break into the old patronage, have been made, but usually the experiment has proved an expensive innovation. At present the rubber shoes are British; to a less extent of Russian, German, and Austrian manufacture. One of the most popular brands of rubber shoes (British) is quoted at about $130 per case of 100 pairs assorted in sizes 9 to 10½ inches. This price is in Hongkong currency, the Hongkong dollar now being worth about 44 cents gold. Rubber shoes are kept in stock by the European dealers, Chinese dealers paying cash when they take delivery from the stock.

If American rubber boot and shoe manufacturers are to get into this market, they must meet the prices of their competitors, and establish a "chop" which should be registered as a trade-mark in Hongkong and in China. There is a practice of importing unbranded shoes, which are then stamped by the Chinese in imitation of other "chops." To get new brands of shoes popular among the Chinese, some wise advertising would be necessary.

It may be noted that the Chinese are more and more taking to "European" styles of leather boots and shoes. The rubber shoe has long been popular with them in a country where there is so much wet weather, and a favorite size is a half-height shoe.

ASIATIC TURKEY.

PRACTICAL TRADE OPPORTUNITIES.

HOW TO SECURE ORDERS FROM BAGDAD MERCHANTS—TERMS OF CREDIT.

Consul Wm. C. Magelssen, of Bagdad, invites the attention of American exporters to certain local practices in commercial transactions that should be complied with by those who desire to extend their trade in that part of Asiatic Turkey. He says:

The foreign trade of Bagdad, including imports and exports for 1907, amounted to $23,577,813. Although the United States is one of Turkish Arabia's best customers, the latter takes practically nothing in return. With the completion of the Bagdad railway, and the subsequent development of Mesopotamia and adjoining regions, the trade will in the near future be doubled, and American manufacturers would do well to make an effort to secure their proper share of this commerce. If they determine to do so they should conform to the methods of the market. The only serious obstacle to American trade in Bagdad is the conditions of payment demanded by our exporters. It is not with "dollars and cents," nor with "free on board New York," that they will succeed in awakening the interest of local *purchasers* in products which are to [illegible]te with the fruits of

European industry; the Bagdad merchant prefers to calculate the cost of articles and expenses connected with importation, in pounds, shillings, and pence, and to have prices quoted f. o. b. Bagdad or Bassorah, packing, shipping, freight, transshipping, and insurance charges prepaid. Only by complying with these requirements will the American manufacturer succeed in getting his proposition carefully considered in these markets.

METHODS OF PURCHASE—HOW AMERICANS LOSE TRADE.

Usually the various kinds of merchandise are imported from European countries through local commission houses. These firms represent the manufacturers or the large mercantile houses which supply the imported articles and allow a credit of more or less extent. There are two systems of payment—cash and credit. By cash is meant that the client pays for the goods within 30 to 60 days from the date of their arrival at the port of destination, ordinarily with a discount of 4 per cent. The usual term of credit is four to six months from the date of arrival of the goods. The commission merchant, or the client himself, withdraws the merchandise from the custom-house, ascertains if the shipment conforms to the samples on which the order was given, and then signs a 4 to 6 months' promissory note, the collection of which is generally left to the representative or the manufacturer. The latter subsequently receives the amount by check on some bank in Europe.

During the course of the year attention was called to Bagdad as being a good market for American bedsteads. Local parties received catalogues of this furniture, and one importer, who is doing a handsome business with British bed manufacturers, opened correspondence with a New York firm. He gave to the American house a description of the beds that find favor here, sent illustrated and marked copies of English catalogues, giving the prices at which he had been enabled to handle Manchester bedsteads, submitted English invoices, and placed a trial order. A few weeks later he received a lengthy letter from the American house, which, after explaining to the Arab merchant the size of the factory, number of men employed, and the volume of business done in the West Indies and South American countries, states:

> There is very little change in design required of us from these foreign friends; they accept our patterns. You will note that our designs are entirely different from those in the catalogues which you have sent us, and we are wondering if you could not adopt something a little more on the order of our designs, the same as the other import people have done so far, instead of holding to your old conventional designs.

The European manufacturer and exporter tells his prospective client that in the event that he (the manufacturer) has not the desired patterns he is prepared to make them, and in other ways to comply as far as possible with the peculiar requirements of the market which he desires to enter, while the average American sends his catalogue and states that he can supply the goods for cash in New York. The results are obvious.

AMERICAN VERSUS BRITISH PRACTICE.

Last spring it was reported that a good market exists here for pumping machinery for irrigation purposes and that interested parties in America should offer prices for complete plants with about 25 feet of pipes, made up in short lengths to suit the rise and fall of the

river; also that the only fuel obtainable in Mesopotamia is petroleum. Soon after this report was published in Washington a number of American engine builders addressed themselves to Bagdad merchants, whose names had been given, but they were not prepared to quote prices for the necessary pumps and pipes, nor were their engines built for petroleum.

British manufacturers of pumping machinery sent experts who were prepared to make offers; they studied the market, supplied the kind of plants required, and operated them until the purchasers were satisfied that the machines could do all that the manufacturers claimed for them. The result is that British pumping machinery has become favorably known throughout these regions, and future purchasers will naturally prefer to buy an outfit known to work perfectly, rather than an engine that is unknown to them and that is not accompanied by the parts necessary to a complete plant.

American exporters have kindly responded to requests for catalogues and trade publications, and there is in this consular office a well-arranged file showing the various lines of goods which could find a market here. Requests for samples, to be exhibited before local merchants, did not appear to meet with the approval of many manufacturers. It resulted in the arrival of one small lot of sheetings and yarns, two clothes pins, samples of toothpicks, and one-fourth pound of paste for manifold copying. It appears that American manufacturers demand payment in advance for samples, as if it were a question of regular business instead of a means of creating trade. An enterprising American builder of motor boats, however, is shipping a sample outfit to a leading firm of this city. It is almost certain that the boat will be sold immediately on arrival and that important orders will follow. Other American manufactures that can be sold here are bedsteads, candles, carriages, clocks and watches, cotton goods, engines for motor boats, knocked-down furniture, preserved fruit, hardware, lamps, leather, lumber, medicines, milling machinery, paints, petroleum, wire nails, and yarns.

SMYRNA BOOK TRADE.

BOOKS OF ENGLISH AND AMERICAN AUTHORS ARE IN FAVOR.

Consul-General Ernest L. Harris, of Smyrna, in the following report intimates that under the new Turkish régime the book trade will be less restricted than heretofore:

The book trade of Smyrna is very large, although up until the present time there has been no way of determining its extent. The books sold by the retail trade are mostly imported through the various post-offices which have been established by European nations in Smyrna. Librarians and book dealers also adopt this means of bringing in books because, although it is a more expensive method than having them sent as freight to be regularly passed through the custom-house, it affords a great saving of time.

The largest number of books are, nevertheless, imported through the custom-house, especially is this the case with bound books.

French books are mostly sold and read in Smyrna, with English books as a good second. Turkish books are sold extensively, and large

Turkish book stores exist in Smyrna. Although the Greeks compose the largest European colony, yet Greek books have not an extended circulation.

Liberty of the press was granted recently by the Turkish Government, and in all probability the restrictions against books will be abolished.

As regards English books, the Tauchnitz edition, published in Leipzig, Germany, is the one most called for by the trade. Of late a very cheap American edition of English and American authors is finding a ready sale.

TOOTH-POWDER IMPORTS.

THE TRADE CONTROLLED BY LOCAL AND EUROPEAN PREPARATIONS.

In reply to inquiries from American manufacturers of tooth powder, in regard to the possible market for their wares in Smyrna, Consul-General Harris, furnishes the following information:

The duty on liquid, powder, and paste preparations for the teeth is 11 per cent ad valorem, and there are no special customs regulations to be observed for the landing of such goods at the lowest rate of duty. The time of credit usually extended by European exporters of such articles to Levantine dealers is three months.

Most of the preparations for cleaning teeth, now sold on the Smyrna market, are supplied by England and France. A lot are also made in Smyrna by the different dentists, and these find a better sale for the reason that each dentist recommends them to his own clients. If preparations are of a superior quality, cheap, and harmless to the teeth, they will, in all probability, sell among the better class of people—at least a small business can always be done. However, the cheaper the preparation the better it will sell, and this applies especially to the interior of the country.

Advertising in some of the local papers is recommended, the names of which will be supplied upon application to this consulate. Posters and other forms of outdoor advertising are used to a small extent by European firms interested in this trade.

Some firms in Smyrna always carry a large stock of this class of goods, and American manufacturers should correspond directly with them. [Names on file in the Bureau of Manufactures.]

STRAITS SETTLEMENTS.

RENEWED LIFE IN THE SHIPMENT OF EAST INDIAN PRODUCTS.

Vice-Consul-General George E. Chamberlin writes from Singapore that the export trade of the Straits Settlements is gradually recovering from the depression experienced during the first quarter of the year 1908, although prices on about every article of export are much lower than one year ago. His comparative statistics of export follows:

The following table shows the quantity in tons (2,240 pounds) of exports of the principal products from the colony, including the ports of Singapore and Penang, for the first six months of the years 1907 and 1908 to the United States direct, to England, the continent

of Europe, and total to all countries (representing tons, except pineapples, where the figures are for cases):

Article.	United States.		England.		Continent of Europe.		Total, all countries.	
	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Cloves	24	13	67	8	.....	.....	91	21
Coffee	151	170	5	.....	226	90	382	260
Copra	.....	.....	2,608	978	30,314	18,197	32,922	19,175
Cubebs	9	6	.....	.....	.....	.....	9	6
Gambier	5,183	5,086	2,913	3,162	3,053	3,898	11,149	12,146
Gambier cube	579	686	285	504	492	716	1,356	1,906
Gum:								
Benjamin	8	8	25	58	54	92	87	158
Copal	1,868	2,023	1,353	1,485	1,371	1,615	4,592	5,123
Dammar	66	198	20	114	63	170	149	482
Gutta-percha	50	270	180	918	510	664	740	1,852
Gutta jelotong	1,803	6,506	446	346	371	349	2,620	7,201
Hides	45	247	642	1,145	182	133	869	1,525
Mace	34	37	2	16	.....	.....	36	53
Nutmegs	246	338	57	59	7	24	310	421
Pepper:								
Black	3,328	3,425	1,355	1,020	5,473	4,307	10,156	8,752
White	679	644	1,175	1,270	1,327	936	3,181	2,850
Rubber:								
Borneo	201	383	25	181	195	284	421	848
India	.....	.....	38	104	.....	16	38	120
Para	¼	¼	564	245	50	18	614¼	263¼
Rattans	1,495	2,707	1,265	951	5,778	5,429	8,538	9,087
Sago:								
Flour	2,718	3,036	10,064	10,804	8,973	6,876	21,755	20,716
Pearl	158	189	1,146	563	978	863	2,282	1,615
Tapioca:								
Flake	158	828	3,195	2,837	1,683	1,293	5,036	4,958
Flour	34	38	1,296	594	134	115	1,464	747
Pearl	3,207	3,772	3,047	3,991	1,889	2,147	9,243	9,910
Tin	5,305	7,152	20,242	16,467	4,744	3,911	30,291	27,530
Pineapples.....cases	95,301	146,207	272,044	285,785	24,485	33,857	392,830	465,847

BRITISH INDIA.

TRADE WITH TIBET.

BENEFITS CHUMBI VALLEY—AMERICAN PURCHASES OF WOOL AND CURIOS.

Notwithstanding the difficulties of trade between India and Tibet, Consul-General William H. Michael, of Calcutta, reports the total value of imports into India from the "Hermit Kingdom" during the year 1907–8 as amounting to $763,594, and the exports from India to that country $483,235. The consul-general writes:

The British trade agent at Yatung says that the figures given are probably exceptionally high, as the spring of 1907 was very late and much merchandise which would normally have been carried in February and March was held over until April and May on account of the deep snow which closed the passes for some time. The roads were rarely blocked for any length of time during the early part of 1908 so that the returns for passing trade for those months are high.

The larger part of the imports and exports pass through Yatung and Chumbi Valley. The people of the valley owe their prosperity more to the practical monopoly of the carrying trade which they enjoy between Kalimpong and Phari than to the actual profits which they make in buying at Kalimpong and selling at Phari.

ARTICLES OF TRAFFIC.

The staple import from Tibet into India is wool. The expectation that the wool trade between the two countries would rapidly increase

after the Tibet mission has hardly been realized. The agent thinks that the unusually large movement of wool during the winter, 1907–8, was due to the excellent weather and unobstructed roads rather than because of the effect of the new political understanding. The amount of wool imported into India from Tibet during the year was 2,665,820 pounds, while the number of pounds imported during the previous year was only 1,135,130 pounds. In the opinion of the agent this was due to the bad roads and choked up passes.

A consignment of this wool was shipped by a Calcutta firm to Boston and New York during June of this year. It was sold here for about 8 cents a pound, which would suggest that the same wool must have sold in Tibet for a very low price.

There are no local industries, the British trade agent informs us, capable of expansion in the Chumbi Valley, and the local demand for manufactured articles other than piece goods, which are brought in bulk from Kalimpong, is met by a few traders who find it sufficiently hard to make a profit over their expenses.

Probably the most lucrative trade carried on by Tibetans who come over the mountains that separate Tibet from Darjeeling is in curios, some of which are quite desirable, but many of which are not what they are represented to be. In fact many Tibetan and Sikkim and Bhutan curios are made in Darjeeling and other points in India and sold as genuine to American and European visitors. An American professor spent several weeks in Darjeeling and Nepal in company with an experienced and learned Hindu Pundit. He bought several hundred rupees worth of curios for the Field Museum of Chicago, his collection, however, being valuable and genuine.

DEVELOPING KARACHI COUNTRY.

GROWING PORT A CENTER FOR EXTENSION OF AMERICAN TRADE.

The importance of India's growing northwestern port of Karachi has led to the establishment of an American consulate there which will no doubt materially aid trade expansion. The following report from Consul-General will therefore be of interest:

According to an official report the rise in the foreign trade of the port of Karachi during the decade ending with the year 1907–8 has amounted to 125 per cent, and in the quinquennium to 53 per cent; in 1904–5 the last record year to 13 per cent, and in the last financial year to 14.55 per cent. This remarkable expansion in trade may be credited to a great extent to the conversion of vast arid plains into cultivable land through irrigation.

The three canal colonies in which Karachi, being the nearest outlet, is most interested are the Chenab with some 5,300, the Jhelum with some 2,000, and the Jamrao with about 1,500 square miles of cultivable area being opened up and cultivated, bringing with it increased population which, in its turn, needs food supplies, clothing, etc. One of the most important works in the Chenab Canal at present under construction is the syphoning of the river Ravi in order to open up a large area of waste land. The extension of the cultivated areas around the several railway projects during the last few years, some completed, some under construction, and some only under survey, for carrying the produce grown all tend to cause an expansion in trade and demand for labor.

LAC TRADE.

STEADY INCREASE IN THE EXPORT OF THIS PRODUCT.

Consul-General Michael also furnishes the following information concerning the exports of lac from British India during the last three fiscal years ending March 31:

The exports of button and shellac from Bengal, in 1906, amounted to 29,053,920 pounds, valued at $10,297,000, a considerable increase on any previous year. In 1907 the quantity exported fell to 27,153,392 pounds, but the average high price during the year, $46 per 112 pounds, brought the value up to $11,152,286. In 1908 the average price was only $40 per 112 pounds, but the large quantity exported, 35,580,832 pounds, brought the value up to $12,707,440.

In the latter part of 1907 there was some depression in the trade, owing to the financial situation in the United States, but there has been an improvement lately.

MOROCCO.

THE IMPORT TRADE.

WHY AMERICAN PRODUCTS ARE NOT SOLD IN THAT EMPIRE.

The following extracts are taken from replies received by Vice-Consul-General George E. Holt from leading importers of Morocco, in answer to his inquiries as to the reason why American products are not sold in that Empire:

FROM IMPORTERS AT LARACHE.

We are sorry to state that, except a few articles, such as phonographs and pharmaceutical products, we have never received American catalogues or circulars of products which might be interesting for this market. Therefore, we have never had the opportunity to be acquainted with American products, which are in general request and much appreciated in productive and industrial countries, where, in spite of heavy tariffs, they compete with the national products in machinery, agricultural implements, tools, etc., and in all articles connected with metallurgical industry.

If, therefore, American products are not as yet known in Morocco, it is because American manufacturers have done nothing to conquer this market. At present the general imports into Morocco consist of cottons (Manchester goods), loaf sugar; metal goods—steel, iron beams, hardware, etc.; glass, glassware, cements, etc.; candles, pumps, windmills, petroleum motors, etc.

FROM MAZAGAN IMPORTERS.

We shall be very much pleased to have our name added to the list of merchants which the consulate-general is now compiling for the convenience of American exporters. The American goods in which we are most interested, and which we should like to see introduced, are cottons, timber, tin plates, and petroleum. Any correspondence we may receive from the United States concerning these articles will, consequently, have our attention.

FROM RABAT IMPORTERS.

We are now agents for an American oil company, and we do banking business, and are importers and exporters. It is regrettable that merchants in the United States are not better informed of what can be done in this country. The political situation is not as bad as rumored by the European press. We see no better method of introducing American products than through commercial travelers coming here to study on the spot. Let them come with all kinds of samples and with the power to do business, and the results will be more favorable. Rabat is a fine field for studying the trade conditions of Morocco. Cattle rearing, dairying, tobacco growing, and many other enterprises can be studied here with a view to supplying them with modern tools and machines. Such travelers

would find here a new field for exploitation, and we strongly recommend the formation of companies in the United States for such purposes.

FROM A SAFFI IMPORTER.

I shall take great pleasure in being useful to the introduction of American products into Morocco. Some years ago I made efforts in this direction, but circumstances were unfavorable, and I could not continue such efforts. I believe that many American wares would find ready acceptance in this country, and, also, that produce could be exported to the United States direct which is now exported via European ports.

For the introduction of American goods into Morocco American exporters should deal as considerately and as liberally with our importers as European exporters do. The principal American products which could be sold in Morocco are cotton goods, raw cotton, paraffin candles, ironwares, paper and paper ware, tobacco, machinery, timber, petroleum, and miscellaneous other products which could be worked up in connection with the principal products just mentioned.

If my health permits, I have in view a voyage to the United States for the purpose of forming, if possible, a limited concern for the purpose of introducing American products into all North Africa, and of a return trade, the exports of North African products to the United States. In the meantime I will be glad to give American exporters all the information that may be useful to them.

[The addresses of the foregoing and other merchant importers are on file in the Bureau of Manufactures.]

MARKET FOR FURNITURE.

MANUFACTURERS MUST COMPLY WITH LOCAL CONDITIONS.

Vice-Consul-General George E. Holt, of Tangier, furnishes the following information concerning the futile efforts of a Moroccan dealer to secure a desk of American manufacture:

Unless the American furniture exporter desiring business in this country is willing to comply with necessary conditions there is absolutely no use in attempting to obtain trade here. If, on the other hand, the exporter is willing to study the demands of the field and to comply therewith, it is my opinion that some little business could be secured, which would gradually develop. One case will explain my meaning:

Not long ago a prominent official in Tangier wished to secure a roll-top desk of American manufacture, having come to believe that American desks were the best obtainable and that their prices were moderate. He was put into communication, through an exporter's agent, with a leading desk manufacturer and exporter, who was given instructions to send at once a certain style of desk. After the lapse of about a month, when the desk should have been on its way, letters were received stating that the price of the desk had advanced $1.50, that freight from the factory to New York would be something like 72 cents, that the desks could be shipped either set up or knocked down, and that cash against delivery in New York would be necessary.

The exporter's agent was communicated with at once, with instructions to ship the desk at the latest list price, cash against delivery in Tangier.

Another month expired, when came a letter from the agent stating that the firm had informed him that the desk would have to be made up and that after being made up it would have to wait some time in order to go as part of a carload lot to New York.

Two months thus having passed, and with no chance of getting the desk for two months more, the matter was dropped, and what would

undoubtedly have been an opportunity for a little American furniture business in Tangier was lost.

The fact remains that American desks and much American furniture can be laid down in Tangier at less cost than equally good articles from Europe, but a thorough knowledge of transportation charges, time of delivery, styles required, etc., is necessary in order to avoid the long delay when inquiries and answers must be sent by post. [The addresses of furniture dealers in Tangier are on file in the Bureau of Manufactures.]

SOUTH AFRICA.

IMPORTS AND EXPORTS.

GROWING IMPORTANCE OF LOURENÇO MARQUEZ AS A SHIPPING POINT.

Consul W. Stanley Hollis submits the following statistics showing that the Transvaal's imports via Lourenço Marquez are increasing, and decreasing via the other South African ports:

Although there was a decrease of over $5,000,000 in the values of goods imported into British South Africa via British colonial ports for the first half of this year as compared to last, there was an increase of about $1,500,000 in the values of similar imports in transit through the Mozambique ports. The port of Lourenço Marquez is thus steadily and surely absorbing the over-sea traffic of the inland British colonial possessions.

The following statement shows the total values of goods imported into and exported from all of the British colonies in South Africa during the six months ended June 30, 1908, as compared with the corresponding six months in 1907:

Imports via ports of—	1908.	1907.	Imports via ports of—	1908.	1907.
Cape Town	$11,174,827	$11,272,162	Durban	$15.528,642	$17,535,352
Parcels post	1,419,349	1,626,761	Lourenço Marquez	9,396,272	8,207,853
Port Elizabeth	13,370,349	14,956,964	Beira	1,613,376	1,342,224
East London	6,894,940	7,792,702	Feira, Zambezia	53,074	77,292
Mossel Bay	817,699	894,268			
Other Cape Colony ports.	442,374	571,974	Total	60,710,902	64,277,552

Exports via ports of—	1908.	1907.	Exports via ports of—	1908.	1907.
Cape Town:			Durban—Continued.		
Diamonds	$14,147,922	$22,881,358	Other South African produce.	$4,575,230	$3,968,358
Raw gold	71,501,314	66,713,564	Lourenço Marquez	665,878	439,868
Other South African produce.	1,763,221	1,579,242	Beira:		
Port Elizabeth	5,423,213	8,431,815	Raw gold	199,049	210,462
East London	2,867,488	4,254,389	Concentrates, gold.	138,897	259,915
Mossel Bay	1,820,368	1,964,849	Other South African produce.	144,292	236,035
Other Cape Colony ports.	1,076,348	1,903,565	Feira, Zambezia	983	243
Durban:					
Raw gold	2,651,943	2,932,441	Total	107,028,140	115,867,679
Concentrates, gold.	51,994	91,575			

To explain the difference in the Portuguese and British figures representing the value of the goods imported in transit, it may be stated that in making entries in the Portuguese customs the c. i. f. prices must always be given, but that the British colonial customs authorities only require that the net prices at the places of manufacture or production be stated.

The following table shows the percentages of the Transvaal's oversea trade that has passed through the various ports since 1904:

Year.	Cape Colony ports.	Natal.	Lourenço Marquez.	Year.	Cape Colony ports.	Natal.	Lourenço Marquez.
1904	0.163	0.40	0.436	1907	0.132	0.289	0.579
1905	.12	.366	.514	1908 (4 months)	.123	.253	.624
1906	.134	.327	.539	1908 (May)	.136	.205	.659

While the transit trade of Lourenço Marquez has increased, its own local trade has also increased, as will be seen by the following statement showing the values of imports, exports, and imports in transit (exclusive of coastwise trade) at Lourenço Marquez during the six months ended June 30, 1908, as compared with the corresponding period in 1907:

	1908.	1907.
Imports for local consumption	$2,000,001	$1,723,079
Exports	1,796,166	1,128,537
Reexports	882,014	858,296
Imports in transit to Transvaal	10,619,928	9,863,867
Total	15,298,109	13,573,779

INCREASED IMPORTS OF THE TRANSVAAL.

Vice-Consul H. A. Loeser, of Johannesburg, supplies the following statement showing the value of imports into and exports from the Transvaal for five months ending May 31, 1908, compared with the corresponding period of 1907:

Imports.	1908.	1907.	Imports.	1908.	1907.
Via Cape Colony	$6,358,146	$6,374,454	South African produce	$7,775,879	$6,360,690
Via Natal	6,145,402	7,846,074			
Via Delagoa Bay	7,943,894	6,968,064	Total	28,223,321	27,549,282

The exports for five months ended May 31, 1908, including gold $57,252,645, and diamonds $4,343,403, amounted to $64,045,335, compared with $61,478,248 during the corresponding period of 1907.

FRENCH SENEGAL.

A DEVELOPING COLONY.

ITS TRADE CONTROLLED BY FRANCE AND THE UNITED KINGDOM.

Consular Clerk Milton B. Kirk, of Paris, has prepared a descriptive review of the French African colony of Senegal, which, though it has a railroad of 163 miles, connecting the ports of St. Louis, Dakar, and Rufisque with points on the Senegal River, is still largely undeveloped. The report has been submitted to the National Geographic Society, but the following extracts are taken therefrom:

The colonial administration is studying the ways and means to install fish-drying places. The best stations are found to the south of Cape Blanc, in the deep, sandy bays of Lévrier and Arguin. These banks are said to be richer in fish and less dangerous than the banks of Newfoundland. The dominant species are the cod—different

from the Newfoundland cod, but not inferior thereto—wolf fish, mullets, sheepshead, gilthead, gurnet, and herring. A schooner of 40 tons, manned by Canary Islanders, catch and preserve daily 3 tons of fish.

Around Dakar the most common fishes are the hammerfish, the rockfish, the mullet, the gilthead (which the natives prepare in large quantities), the sole, the turbot, and the herring.

There are many species of trees, which frequently grow to a great height, such as the Senegal mahogany, the silk cotton tree, the oil-palm, the baobab, the mangrove, the acacia gum tree, etc. All the rubber of French West Africa is furnished by a single species, the Landolphia, called the toll. This is one of the finest shrubs of the tropical flora, which, on the lateral plateau (agillaceous sandstone), frequently forms large, heavy thickets, 15 to 24 feet high.

IMPORTS AND EXPORTS.

The imports into the colony in 1906, chiefly at the port of Dakar, were valued at $10,435,974, an increase as compared with 1905 of $164,222; the exports were valued at $6,893,917, an increase as compared with 1905 of $2,152,797.

Of the imports, 50.1 per cent were from France, 7.8 per cent from French colonies, and 42.1 per cent from foreign countries. Of the exports, 72.5 per cent went to France, 5 per cent to French colonies, and 27 per cent to foreign countries.

The principal import into the colony is cotton textiles, which amounted to $3,304,007 in 1906, imported from the following countries: United Kingdom, $1,593,000; France, $672,000; French colonies, $786,000; Germany, $28,000; Holland, $225,000; United States, $7.

The total imports into French Senegal from the United States in 1906 amounted to only about $192,000, composed of the following products: Tobacco, $128,548; pine, $30,000; wood manufactures, $8,000; wagons, $1,000; kerosene, $11,000; tobacco manufactures, $700, etc.

It will thus be seen that the United States is far from doing the business it should do with Senegal, especially in cotton textiles. The same applies to the French possessions in West Africa. The only way to do any business in those colonies is to have a good American agent on the spot, to study conditions, and not trust to foreign houses to push American goods.

CHILE.

IMPORTS OF MUSICAL GOODS.

A POPULAR AMUSEMENT CREATES LARGE DEMAND FOR INSTRUMENTS.

In reporting that the Chilean people are great lovers of music, Consul Alfred A. Winslow, of Valparaiso, points out the consequent demand and market for musical goods:

There are two very creditable conservatories of music in Chile, and a large number of the young people of this country study in Europe. A young lady's education is considered very incomplete unless she is able to play the piano fairly well.

There should be a fine opening in Chile for a medium grade of American pianos and wind instruments. At present there are a sur-

prisingly small number of American pianos in this country, in face of the fact that the few in use here are so highly appreciated. This comes from too high a price, and absence of an active campaign for the business on the part of the American manufacturer. It is principally the latter, for in general the Chilean will pay well for a superior article when he is satisfied that he is really getting the worth of his money. It should be remembered that nearly everything pertaining to music has been European, and naturally it will require some active work to turn the tide. At present most of the dealers in musical instruments in Chile are Germans, and by reference to the accompanying table it is clear that active work counts.

The most effectual way to go after this business would be to send a first-class salesman who is familiar with Spanish to thoroughly cover the country and liberally distribute advertising matter printed in Spanish. He should also advertise in the newspapers and periodicals of the country. Such a campaign, followed by a good general agent or two for Chile, would show good results beyond a doubt. The Chilean is pleased with things American. He is fond of American music when he can get it, which is not often, however.

The following tables cover the imports of pianos in the three lines for the past three years, given in United States gold:

Country.	Grand and baby grand.		Upright pianos.		Wind instruments.	
	1906.	1907.	1906.	1907.	1906.	1907.
Belgium			$280		$305	$46
France	$918	$2,099	342	$2,330	2,064	9,590
Germany	26,364	36,055	132,616	125,262	16,519	14,251
Great Britain	156	296	1,575	5,020	360	841
Italy		266		1,153		172
Spain		332	1,001	593	51	
United States	1,199	2,734	5,941	3,592	78	300
Total	28,637	41,782	141,755	137,950	19,377	18,200

This is a trade destined to grow as the country develops, and it will pay to cultivate the field thoroughly, as no musical instruments are manufactured in Chile, nor will there be any for many years to come.

The duty on musical instruments is 35 per cent, based as a general thing on a varying valuation of so much a gross kilo, which in the case of upright pianos is 47.5 cents (United States gold) per kilo of 2.2 pounds.

METAL BEDSTEADS.

EXCELLENT OPENING FOR AMERICAN MAKES.

Consul Alfred A. Winslow, of Valparaiso, reports that there should be a good opening in Chile for the better grades of enameled iron and brass bedsteads and cradles from the United States. He gives the following details of this trade:

Goods of this character were imported into Chile during 1907 to the value of $174,310 United States gold, of which the United States supplied only $3,031 and England $165,199. The duty on iron and brass bedsteads is 35 per cent on a valuation of from 14.6 cents United States gold per kilo of 2.2 pounds, including the packing case, etc.,

to 43.8 cents per kilo for iron bedsteads, and from 43.8 to 73 cents for brass bedsteads.

Practically all the cheaper iron bedsteads sold in Chile are manufactured in this country from tubing bought principally in England. None of the bedsteads manufactured in Chile are enameled. They are generally coated with a rather poor grade of enamel paint. Fairly strong, but roughly made Chilean iron single bedsteads sell here at retail for about $10 United States gold. For the benefit of interested parties, a list of importers of this class of goods at Valparaiso and Santiago is forwarded [and filed for reference at the Bureau of Manufactures].

BRAZIL.

SMALLEST SHIPMENT OF HIDES FROM RIO GRANDE FOR MANY YEARS.

Consul-General George E. Anderson, of Rio de Janeiro, advises that the decreased exports noted all over Brazil for the first half of the current year is illustrated in the return of exports of hides from Rio Grande do Sul for the period in question as compared with last year and other previous years. The record is the smallest for six years, as appears from the following table (no salted hides going to the United States):

Year.	Salted hides—Europe.	Dry hides.		Total.
		Europe.	United States.	
1903	314,713	157,591	5,985	478,289
1904	401,447	136,403	23,136	560,986
1905	278,110	185,377	8,571	472,058
1906	298,050	150,499	9,000	457,549
1907	367,811	140,336	10,000	518,147
1908	331,617	88,549	7,000	427,166

The number of hides sent to the United States is the smallest since 1903, while the falling off in total exports, due notably to the decreased shipments of dry hides to Europe, is less than the total for many years. Exports of tallow, beef, bones, and hair show a corresponding decrease for the half year.

SALVADOR.

EXPORTS BY PRINCIPAL ARTICLES AND COUNTRIES.

Vice-Consul-General John J. Ernster, of San Salvador, transmits a copy of the Diario Official wherein is shown the exports of Salvador for the first quarter of 1908, from which the following statistics have been compiled:

The total exports for the quarter were valued at $2,940,535, of which coffee amounted to $2,392,530 and silver bars $320,509. Sugar and anil (indigo) were the only other exports of any consequence, amounting to $75,857 and $49,084, respectively.

The exports to the principal countries were as follows during the quarter: United States, $604,285; France, $774,795; Germany, $747,479; United Kingdom, $219,439; Italy, $205,573; Spain, $139,324; Austria-Hungary, $133,276; all other countries, $116,364. Coffee, of course, constituted nearly the whole exports to these countries, with the exception of the United States; hereto the exports of silver bars amounted to $330,509, and coffee to $259,427.

MEXICO.

TOY PURCHASES.

PRESENT GIVING AN IMPORTANT FEATURE FOLLOWING CHRISTMAS.

Consul William W. Canada, of Veracruz, makes the following practical suggestions for supplying the Mexican demand for toys:

The population of the State of Veracruz is estimated at about 1,300,000. A good trade is done in cheap toys; the business in dressed dolls alone is worth attention. Mechanical toys find ready sale. Tin toys, such as, for instance, wagons, carts, railway trains, automobiles, operated by clockwork or electricity, are good sellers. Toy boats, miniature tools, kitchen utensils, furniture sets, color boxes, children's wagons, garden tools, toy guns, pistols, military equipments, games, swings, in fact, everything in the line of toys, finds purchasers. "Teddy bears" found favor at once. Boys' base-ball outfits would be readily bought, since base ball has been made a regularly accepted sport here.

Nearly all of the cheap toys are procured from Germany. Now that the holiday season is approaching, American exporters should look after this market. Christmas is not celebrated here as at home, but instead on Christmas Eve, in the form of a supper for the members of a family, and attending midnight mass. Presents are, however, given on January 6, "Los Reyes," and every store window is filled with toys for the little ones a month before the time. The poor Indian will deprive himself of necessities for the sake of buying his children some sort of a toy for this day.

The city of Veracruz itself has no more than about 45,000 inhabitants; but there is Orizaba with 35,000, Jalapa with 25,000, Cordoba with 10,000, San Andres Tuxtla with 10,000, and many other towns with from 2,000 to 5,000. All these places draw their stocks either from Veracruz or Mexico City. The trade is much larger than the number of inhabitants would seem to indicate, and owing to the proximity of the United States orders should be filled with greater promptness than from Germany. The trade is worth looking after and I hope to see some of it secured by American manufacturers and exporters.

COOKING STOVES.

DEVELOPING MARKET FOR AMERICAN GOODS.

Consul George B. McGoogan writes from La Paz as follows concerning Mexico as an inviting field for American stove and cooking utensil manufacturers:

At the present time a large percentage of the people in Mexico do not use cook stoves, and compartively few use cooking utensils. With the betterment of conditions among the working classes, and the dissemination of the modern ideas of living throughout all Mexico, these lines present an inviting field for the American manufacturer.

In order to sell well, stoves should be of moderate size, plain, compact, and durable, taking into consideration that the tariff is by weight, and the freight is by weight or bulk. Cooking utensils should be of the plain substantial style, with a view to utility rater than ornamentation.

Reference is not to the high-grade articles which already have a market here, but to the demand that is rapidly developing among a class that has hitherto bought little in this line.

CANADA.

MARKET FOR BARBERS' SUPPLIES.

EXCELLENT OPENING IN NEW BRUNSWICK AND NEAR BY PROVINCES.

Consul Gebhard Willrich, of St. John, writes that there is no establishment in New Brunswick engaged in the manufacture of barbers' supplies, such as razors, razor strops, shears, clipping machines, and other lines of cutlery. The three maritime provinces, New Brunswick, Nova Scotia, and Prince Edward Island, depend for such supplies on Toronto. St. John is the best distributing center for the provinces mentioned, and should afford a good opening for such a distributing establishment.

WORLD TRADE TRANSACTIONS.

SUMMARY OF TOTAL IMPORTS AND EXPORTS OF LEADING COUNTRIES.

The following summary table has been prepared in the British Board of Trade, showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to June, 1908, inclusive, and referring in all cases to the same period, viz, the six months ended June. The corresponding figures for 1907 and 1906 are added for comparison:

Country.	Imports, six months ended June (see note)—			Exports (domestic), six months ended June (see note)—		
	1906.	1907.	1908.	1906.	1907.	1908.
Germany	$964,963,685	$1,039,499,000	$995,462,041	$683,636,187	$791,200,436	$782,557,532
Belgium[a]	311,879,385	357,203,770	331,296,720	230,540,704	252,308,569	246,230,300
France	550,337,885	619,933,702	593,440,476	491,307,240	541,763,112	507,707,345
Switzerland[b]	134,694,987	156,798,630	149,206,890	99,724,318	108,917,136	97,699,854
Spain	101,009,074	91,388,003	94,410,100	85,066,420	83,932,525	89,241,877
Italy	234,034,851	292,442,584	283,999,207	176,629,617	183,895,302	174,697,617
Austria-Hungary	242,619,357	247,145,202	253,452,186	225,309,217	228,360,512	225,810,466
Egypt	52,499,802	61,347,099	57,322,503	55,697,092	66,121,135	53,331,973
United States	646,188,469	761,685,114	529,689,326	856,294,740	938,421,794	876,690,242
Japan	110,605,812	131,502,563	125,477,836	86,575,035	96,989,345	85,251,347
Canada	149,508,613	183,243,191	140,602,918	102,337,628	90,098,381	97,169,405
British South Africa[b]	82,083,255	68,544,652	62,797,316	99,388,529	115,885,964	107,174,929
United Kingdom	1,246,461,511	1,347,081,265	1,260,472,165	878,860,701	1,004,041,680	924,602,934

[a] Value of principal articles only. [b] Including bullion.

NOTE.—In the case of Germany, Belgium, France, Switzerland, Italy, Austria-Hungary, Egypt, Japan, Canada, and United Kingdom the import figures given in the above summaries represent imports for home consumption. In all cases the export figures are intended to represent exports of domestic produce. In most cases, however, they include a certain amount of "nationalized" goods, i. e., goods originally imported for consumption and which, if dutiable, have been charged with duty, but which are subsequently reexported.

The latest figures available as regards other countries from which returns are received by the Board of Trade are as follows:

Country.	Imports.			Exports (domestic).		
	1906.	1907.	1908.	1906.	1907,	1908.
Russia[a] (4 months)	$100,030,907	$108,800,340	$119,049,189	$138,325,396	$116,654,871	$111,199,525
Mexico[b] (5 months)	54,538,865	50,888,990	41,973,562	57,732,289	54,738,392	47,000,657
British India (5 months)	160,195,447	162,098,382	194,066,287	239,392,868	281,035,508	208,490,593
Australian Commonwealth (5 months)	83,883,860	98,415,229	97,763,118	127,706,693	138,286,464	113,739,838

[a] European, Russo-Finnish, and Black Sea frontiers. [b] Including bullion and specie.

TRANSPORTATION.

FOREIGN RAILWAY PROGRESS.

UNITED KINGDOM.

DECREASED EARNINGS OF BRITISH RAILWAYS.

Consul Frank W. Mahan, of Nottingham, in furnishing the following information concerning the reduced earnings of British railways, reports that arrangements have been made between competing or connecting companies for the purpose of reducing expenses also:

The half-yearly meetings of stockholders of British railways were recently held, and the reports on the business of the six months ending June 30, 1908, are now being published. The reports for the railways traversing this district, which indicate the general drift of those for all the other railways of this country, show that the gross receipts were materially less than those for the corresponding period of 1907. To aggravate the unsatisfactory showing, expenses were heavier this year than last. The increase was due to two causes. Active demand raised the price of coal to an extraordinary height in 1907, and, though all industries have been depressed this year, coal has hardly yet reached a normal price level. Wages of various grades of railway employees have been advanced this year through decisions and regulations of the Government board of trade and conciliation boards, either by additions or reduced hours of labor.

The receipts show a distinct decline at commercial centers, indicating business stagnation. In this district first-class passenger fares declined, while third class increased. There is no second class on the railways in this locality. The receipts from passenger traffic in this section, on the whole, have not declined materially if at all this year, but the receipts from freight have seriously decreased. The reports hold out no hope of improvement during the second half of the year.

The decreased earnings have led to working arrangements between various railways competing or connecting in train services to lower expenses by cutting out trains and reducing number of employees in offices and joint stations. Such arrangements have now been completed between the Great Central, Great Northern, and Great Eastern roads operating in this territory, and other similar combinations are under negotiation.

BRITISH RAILWAY AMALGAMATION FOR ECONOMICAL REASONS.

Consul Joseph G. Stephens, of Plymouth, furnishes the following information concerning the amalgamation of British roads:

The official announcement that the London and Northwestern Railway and Midland Railway companies have arrived at an agreement of a comprehensive character, to extend for a long period of years, is an additional proof of the tendency among British railway companies to amalgamate.

The present financial position of the companies demands that such prompt and definite arrangements be concluded whereby needless com-

petition be discontinued and greater economy be effected in working expenses. Checking the volume of expenditure will not only be a benefit to the shareholder, but a great advantage to the public. It is rightly believed and advocated that each company has something of good to offer the other without injury to itself or its customers. Under the present system there is an astonishing and frightful waste in working expenses. As an illustration there are in Plymouth six different railway companies keeping up expensive offices, where it is candidly admitted that two offices would fully suffice. It is felt that this can not be allowed to continue. The officials of the London and Southwestern Railway Company report the worst six months for fifty years, and the chairman of the company remarked that their highly unsatisfactory position was no exception.

Although the present working agreements between companies fall far short of amalgamation, it is asserted that parliamentary sanction will shortly be sought on behalf of some of the largest companies for schemes by no means so restricted in their scope.

ENGLAND.

DECREASED RECEIPTS OF THE NORTHEASTERN RAILWAY.

Consul Horace W. Metcalf, of Newcastle-on-Tyne, transmits a clipping from a local newspaper concerning the decreased receipts and increased expenditures of the Northeastern Railway for the half year ended June 30, 1908, from which the following information has been abstracted:

The report of the directors shows a decrease in the receipts for the six months of $773,774 and an increase in expenditure of $394,000, so that the net receipts were $1,167,774 less than for the same period in 1907. The directors report that the fall in receipts would have been greater but for the increased shipments of coal in the northern ports. The decrease is most marked in the goods traffic, which shows a loss of $545,048. Minerals fell off $248,200.

The total decrease has the unpleasant accompaniment of increased payments in all the spending departments, most marked in the locomotive power cost, where the increase over the same months in 1907 was $180,000, due to increased cost of materials.

The dividend on the Northeastern consols to the ordinary stockholders for the past six months will be about $3,440,615, while a year ago $4,204,000 was distributed to the same shareholders, so that the dullness caused a loss to them of $764,000.

The decrease in the traffic receipts and consequently in the dividend is general in the railway world, but on the Northeastern it has been very marked.

IRELAND.

RAILWAYS BEFORE THE RAILWAYS COMMISSION.

The following information is furnished by Consul Alfred K. Moe, of Dublin, concerning an investigation into the management of Irish railways:

During the past few months the Irish railways commission has been sitting to hear evidence with a view to reforming or regulating the several railway systems of Ireland. Much evidence has been iven before this commission on the part of traders, public bodies,

professional men, and clergymen. The largest part of this evidence has been in the nature of complaints against the various railway managements, and hundreds of instances have been related to show the questionable methods employed by these railways in both their passenger and freight departments. In general, however, the citation of instances and complaints have not been formally substantiated. The people have appeared before the commission in no regular or representative character, and they have not had, as a rule, that very valuable support of legal representation in formulating and presenting their case; the railway people, on the other hand, have shown organization from the very start, and in the employment of legal experts have developed their side of the case with more plausible success.

As the question of Irish railway management and methods is a burning one in Ireland, and as the economic prosperity of the vast majority of the people is largely dependent on the attitude of the railways, it is of direct interest to American traders, manufacturers, and producers to understand the trade, import and export, as it affects the Irish buying public and as it relates to the question of traffic methods on through shipments of freight from foreign countries via English ports. [Consul Moe's report in full, consisting mainly of the replies of the railways to the complaints of the public, is on file in the Bureau of Manufactures.]

AUSTRIA.

LOW RATES FOR THE FOSTERING OF CERTAIN INDUSTRIES.

Consul-General W. A. Rublee, of Vienna, furnishes the following information concerning the extension and workings of the Austrian State railways:

The operation of the State railways in 1906 resulted in a deficit of 83,000,000 crowns ($16,849,000). Even taking the factor into account that the State was forced to assume the ownership of lines that were worked at a loss, besides being obliged to construct railways that were mainly valuable from strategical point of view, a considerable part of the deficit still remains to be accounted for. There is no doubt that this is due to the policy of granting, in some cases, minimum rates below the actual cost of operation, with the object of fostering certain industries. A striking instance of this is the freight rates granted for sugar. The Austrian beet-sugar industry owes its importance mainly to its great export trade, which amounts to three-fourths of the entire output. This export of sugar is only rendered possible by these reduced rates, both on the part of the State and the Austrian Lloyd Steamship Company.

GOVERNMENT CONTROL.

In 1896 the extension of the State railway system had already assumed such proportions that a railway ministry was called into being to deal with the complicated questions that had arisen in connection with the vast undertaking. The railway minister not only has full control of the State railways (divided into the twelve traffic directions), but also has the supervision of the various private companies, which latter functions are partly vested in a special department. At the general meeting of every board a government official is present

who has the right to veto any measure unfavorable to the interests of the State and not in accord with the charter. Overcapitalization of stock is thus always prevented by the Government. Privately owned roads have always been obliged to make an annual report of operations and financial standing to the Government. Secret rebates have never been permitted in this country, owing to the supervision of the State. Preferential rates for the encouragement of export or for the benefit of some special industry have indeed been granted, but were not accorded to privileged persons or companies only. The control of freight rates is an important complement of the customs policy and a powerful instrument in the hands of the Government, which is thereby enabled to combat adverse customs regulations of adjoining countries. Partly with this special object in view the important acquisitions of the present year have been effected.

The companies controlling the lines just taken over by the Government resisted the overtures of the latter, but finally an agreement was concluded on the basis furnished by the charter provisions, which is considered fair for both parties. Aside from the right of escheat in favor of the State after the expiration of ninety years, the charters provided for the right to take over the lines at an earlier time. The basis for these agreements was formed by the returns of the last seven years prior to the taking over. Two years of this period with the lowest returns were deducted and the average of the aggregate net earnings of the remaining five years are to constitute the annuity to be paid by the State semiannually. For this purpose 4 per cent State bonds are to be issued. With slight modifications this was the procedure in the taking over of all the roads. The acquisitions of the present year, 1,864 miles, as well as the line taken over in 1906, 808 miles, are great revenue producers, the latter yielding in 1907, under State ownership, a net gain of 8,000,000 crowns ($1,616,000), and it is confidently expected that the addition of these lines will not only result in the wiping out of the deficiency above referred to, but will bring handsome returns on the money invested by the State.

The system of State railways at the end of 1907 had a mileage of 9,320 miles, which will now be increased by the lines just taken over by 1,952 miles, making a total of 11,272 miles. The roads still under private control have a mileage of about 2,000.

The State ownership of railways is regarded favorably by the general public in Austria.

PURCHASE OF PRIVATE RAILWAYS BY THE GOVERNMENT.

Consul Joseph I. Brittain, of Prague, reports that, according to a local journal, negotiations have been completed by which the Government of Austria-Hungary has purchased the following private railways, located chiefly in Bohemia:

The Staatseisenbahngesellschaft, established in 1855, extending from Bodenbach to Vienna, with various side lines, and a total of 849 miles, valued at $44,000,000, the stock comprising 550,000 shares.

The Oesterreichische Nordwestbahn, extending from Tetschen to Vienna, and from Prague to Vienna, with 390 miles of track. The property, divided into 180,000 shares, is valued at $14,400,000. In 1909 the stock of this line will be exchanged for 4 per cent Government bonds at the rate of $98.45 per share.

The Sudnorddeutsch Verbindungsbahn, extending from Pardubitz to Reichenberg, 177 miles long, and comprising 75,000 shares valued at $6,300,000. For this the Government proposes to exchange for the shares in circulation 4 per cent Government bonds, giving the shares a valuation of $86.28 per share.

The Elbetalbahn, 193 miles long, extending from Tetschen to Nimburg (140,000 shares), valued at $11,200,000, and the Böhmische Nordbahn, 217 miles long, comprising 93,333 shares of stock valued at $5,600,000.

By taking over these various lines of railway the Government has increased its lines 1,826 miles, making the total Government mileage 8,422 miles.

Contemplated improvements on these various lines have been deferred from time to time on account of the pending negotiations with the Government during the past few years.

All the lines are not double tracked, the rolling stock is inferior to that of American roads, and the passenger accommodations are not so good; especially is this true of the accommodation trains making all the local stops. By obtaining these private lines the Government has obtained control of all northern traffic lines to the river Elbe. It will also give the Government better facilities for reaching a water outlet at Trieste.

The average rate charged for passenger travel is as follows, per mile: Third class, 0.98 of a cent; second class, 1.64 cents; first class, 2.93 cents. The rate for express trains is as follows: Third class, 1.30 cents; second class, 2.30 cents; first class, 4 cents. There is absolutely no baggage allowance, excepting what hand baggage can be carried into the compartment.

RUSSIA.

TRANS-SIBERIAN RAILWAY AND RAILWAY RATES.

Consul James W. Ragsdale, of St. Petersburg, furnishes the following information concerning the building of a second track on the trans-Siberian Railway, the general advance in railway rates, and the introduction of a new type of locomotive on Russian railways:

The latest edition of the code of law contains provisions for building a second track on the Trans-Siberian line from Omsk to Baikal, from Tanhay to Daramsky, and for rebuilding the road in the mountainous districts between Achinsk and Irkutsk. The cost of the latter work is fixed at 36,076,000 rubles ($18,579,140). The work will begin in 1908, and the treasury will advance $7,835,033.

A new type of locomotive has been introduced on Russian railroads. It is the so-called improved 4 and 5 axle type of the southeastern railroads. The 5-axle locomotive weighs 154,728 pounds, and the 4-axle tender 13,104 pounds, total weight 167,832 pounds. The cost of this locomotive is, according to the estimates of the factories, $26,380. It is the most expensive of all types of locomotives used in Russia.

ADVANCE IN PASSENGER RATES.

On July 1, 1908, a general advance in passenger rates on the Russian railways went into effect. The advances on local rates

are: First class, 30 per cent; second class, 20 per cent; and third class, 10 per cent, with appreciable discounts on long trips.

The new rates from St. Petersburg, via Moscow, are as follows on imperial trains:

To—	First class.	Second class.	Miles.
Shanghai	$210.82	$150.70	7,189
Nagasaki	197.88	135.75	6,553
Vladivostok	169.10	109.00	5,795
Harbin	141.10	95.28	5,312

The rates are payable in rubles (ruble = 51.5 cents), and include place and berth on the Siberian express, two trains per week. The rates by the International trains, one train per week, average about 5 per cent more than the fares quoted.

RAILWAY CONSTRUCTION AND TOURIST TRAFFIC.

Representatives of an English company have arrived in Tiflis with the object of constructing a railway over the Caucasus Ridge. They have over 60,000,000 rubles ($30,900,000) back of them, and only ask a 2 per cent guarantee from the Government.

A well-known tourist agency is about to open an office in St. Petersburg to issue tickets and transact business in Russia as it does in other countries.

A conference of representatives of the Government and private railways and other Government institutions, under an official of the ministry of ways of communication, has resolved that this company be permitted to sell, on commission, first and second class tickets on all Russian railroads, but such sales to be made only at stations of foreign railways. Round trips may be organized, but for traveling between points inside of the Russian frontier regular rates are to be paid, special coupon books to be issued for such round trips. The company is obliged to do the advertising as well as the issuance of the necessary guide books at its own expense.

A NEW RAILWAY.

Consul-General Richard Guenther, of Frankfort, Germany, reports that a company has been organized in St. Petersburg, with a share capital of $5,000,000, for building and operating a new railroad line, called the North Donez Railway, from a town on the line of the Kursk-Kief Railway to the city of Kharkof, 155 miles. From Kharkof the railway is to be continued to Mamai, the center of the Donez coal and iron district, and thence a connecting line to Lichaja station, on the Southeastern Railway, is to be constructed later on for the purpose of developing the important coal deposits in that region.

GREECE.

RAILWAY BUILDING AND RAILWAY RECEIPTS AND EXPENDITURES.

The following information concerning Greek railways is furnished by Vice-Consul-General Bernard Melissinos, of Athens, and is taken from a fiscal journal published in that city:

It may be considered certain that the extension of the Piraeus-Athens Railway to the Turkish frontier—about 270 miles—to connect

with the Ottoman railway to Saloniki, will be ready to be taken over by the Greek Government early in 1909, and that, although the point at which the Greek road will connect with the Monestir-Saloniki road has not yet been decided, it is likely that within a year Greece will be in railway communication with the Occident.

During the year 1907 the receipts on the Hellenic railways, from Piraeus-Athens to Bralo, 240 kilometers (149 miles), amounted to 5,556 drachmas ($1,073) per kilometer (0.62 mile), of which 3,309 drachmas ($639) were from passengers and 2,247 drachmas ($434) from merchandise.

The convention with the Hellenic railways provides that as long as the receipts are less than $1,158 per kilometer $926 will be retained for working expenses. Thus for the 240 kilometers now in exploitation the sum of $222,296 was retained for expenses. The actual expenses were, however, $2,078 less than the amount retained, and this was divided between the Government and the company. The dividend for 1907 was fixed at 6.20 drachmas ($1.26). Thus on 40,000 shares a sum of 248,000 drachmas ($28.564) was distributed. According to the convention the shareholders are entitled to 6 per cent on their capital—corresponding to a dividend of 15 drachmas on shares of 250 drachmas ($2.90 on $48.25)—but if the profits exceed this amount the surplus is divided between the Government and the company in proportion of 92½ to the former and 7½ to the latter.

During the year 1907 the receipts of the Peleponnesus Railway amounted to $1,711 per kilometer, and those of the Thessalian Railway to $1,911.

The following is the mileage of Greek railways: Hellenic railways, 149 miles; Peleponnesus Railway, 468 miles; Thessalian Railway, 127 miles.

SWITZERLAND.

KINDS OF TIES IN USE ON THE FEDERAL RAILWAYS.

In reply to an inquiry from the United States concerning the kinds of railway ties in use in Switzerland, Vice-Consul Leo J. Frankenthal, of Berne, writes as follows:

Aside from the usual iron and wooden railway ties only a few reenforced concrete ties are in use, and these simply as a trial under the direction of a Geneva engineer, who delivered them to the Swiss Federal railways. It appears to be too early to give any opinion as to their value.

The ties ordinarily used on the Federal railways are: Iron ties, about 8 feet 10 inches, weighing 150 pounds, manufactured in Germany, and costing $2.13 delivered at Basel; oak ties, same length, 6 inches high and 10 inches wide, made in France and Switzerland, and costing $1.80; beech ties, same dimensions, made in Switzerland, and costing $1.61; and fir ties, same dimensions, made in Switzerland, and costing $1.26.

The wooden ties are all impregnated with tar oil. On the secondary roads similar ties are used, but about 10 inches shorter, the cost being relatively smaller. [Copies of two Swiss patents for fastening rails upon a concrete roadbed or groundwork, and for railroad ties of reenforced concrete, transmitted by Vice-Consul Frankenthal, are on file in the Bureau of Manufactures.]

NORWAY.

PROPOSED IMPORTANT RAILWAY CONSTRUCTION.

Consul Felix S. S. Johnson, of Bergen, furnishes the following information concerning the building of new railway lines in Norway:

The Norwegian Storthing has just passed a bill authorizing a number of important railway lines to extend over a building period of twelve years, in conformity with the railway construction bill of the late administration. This bill contains a comprehensive plan for future railway construction in Norway tending to improve (1) the connection between South and North Norway by the so-called Dovrebane; (2) the connection between Southeast and Northwest by the Raumabane, ending at Aandalsnes (Romsdalen); (3) the connection between Christiania and Stavanger, by sections, which will ultimately constitute a consecutive line between the two towns; (4) the connection between Trondhjem and Nordland by the building of a section, the final terminus of which line will be a little above the Arctic circle.

BELGIUM.

PROPOSED ABOLITION OF ALL GRADE CROSSINGS.

Consul H. Abert Johnson, of Liege, furnishes the following information concerning the question of abolishing all grade crossings on Belgian lines, now being considered by the ministry of railways:

It is estimated that the entire sum needed to meet the expenses that such a measure would entail would be $60,000,000. At present there are as many as 6,125 grade crossings on the Belgian lines, and in most cases where it will not be possible to change the direction of the roadway it will be necessary to arrange to carry it either over or under the railway line. For changes that do not demand either the elevation or depression of the roadway, and are therefore the least expensive, it is estimated that about $4,000 will be needed for each crossing. For such crossings as require the elevation or depression of the roadway above or below the track it is calculated that the outlay will not be less than $200,000 for each crossing.

GUATEMALA.

PROPOSED LINE WOULD GIVE RAIL CONNECTIONS WITH UNITED STATES.

Vice-Consul-General William Owen, of Guatemala City, sends the following information of new railroad lines planned in Guatemala:

A contract has been signed, the particulars of which have not yet been learned, but which provides for the construction of a railroad from a point on the existing Occidental Railroad, presumably Caballo Blanco, to Ayutla, on the Mexican frontier, including also the construction of a bridge across the Suchiate River.

Such a road when built would give Guatemala through railroad communication with the United States, and, but for difference in gage between Mexican and Guatemalan roads and probable tariff manipulations, would send all produce from southwestern Guatemala over pan-American and Mexican roads to Coatzocoalcos as a shipping point. It is manifest that a comparatively level haul like that across

the Isthmus of Tehuantepec can be more cheaply made than a pull up 5,000 feet over Guatemalan railroads to Puerto Barrios.

All existing Guatemalan railroads are 3-foot gage, but it may be interesting to know that the greater number of the bridges, with their masonry, of the Guatemala Central were constructed with a view to possible widening of the track to standard gage.

The Guatemala Central Railroad has also signed a contract to construct for account of the Government of Guatemala a railroad from San Felipe, the present branch terminal of the Occidental road, to Quezaltenango.

Preliminary surveys are now being made south from Zacapa, Guatemala, with a view to join the Guatemala Railway to the proposed Salvador road, thus creating an outlet toward the Atlantic for products of that very productive Republic.

VENEZUELA.

TRAFFIC ON THE GERMAN RAILWAY.

The following information concerning the traffic in 1907 on the German Railway in Venezuela is furnished by Consul James W. Johnson, of Puerto Cabello:

The German Railway extends from Valencia to Caracas. Its length is 288 miles, with a branch line of 8 miles. The capital of the company is given as $10,132,500. The following statement shows the receipts and expenditures of the company in 1907:

Receipts: From passengers (number carried, 127,975), $124,975; animals (number carried, 18,128), $19,752; freight, $249,307; all other receipts, $5,143; total receipts, $398,899; total expenditures, $275,628; net receipts, $123,270.

The products which composed the freight are given as follows, in tons of 2,000 pounds: General merchandise, 19,769; fruits, 13,952; construction material, 2,905; baggage and parcels, 896; miscellaneous, 5,735; total, 43,259 tons.

ARGENTINA.

PLANS FOR AN UNDERGROUND ELECTRIC RAILWAY AT BUENOS AIRES.

Referring to previous reports on the unsuccessful result of the bids received by the Argentine Government for the construction of the proposed underground railway in Buenos Aires, Consul-General Alban G. Snyder now sends the information that Deputy Mitre, the author of the new railroad law now in force, has presented to Congress a project of law for an underground electric railroad from the terminus of the Western Railway to the center of the city, details of which follow:

This project authorizes the executive to construct such a railway from the port of the capital to Calle Sadi Carnot, the lines running under the Avenida de Mayo and Calle Rivadavia to the Plaza Once de Setiembre, and containing two or three stations en route.

The executive will be authorized to contract for the construction of the work with the Western Railway, which will submit the plans to the executive. The lines are to be constructed on account of the

Government, the railway furnishing the capital, the Government paying 5 per cent interest on the outlay during construction. The railway will also exploit the work, and until a dividend is paid the railway and the Government will divide the losses. When the underground railway pays a dividend the profits will likewise be divided equally between the Government and the Western Railway.

The portion belonging to the Government will be first used in paying off any losses incurred in the initial working, and later to the amortization of the capital employed in the construction. The Western Railway will manage the underground railway. When the whole of the capital has been paid off the Government shall receive 90 per cent of the net receipts and the railway company 10 per cent.

The concession shall be for not less than fifty years, and when the capital is amortized the company shall have the preference of working the road for another twenty years, at the end of which time they have the right to rent the underground railway should the Government decide not to work it on its own account.

The foregoing is practically the same proposition advanced by the Western Railway some time ago and which the Government refused at the time, preferring to call for bids. Owing to the unsuccessful outcome of these bids, it now looks as if there was some prospects of the railroad obtaining the work.

CANADA.

CONSTRUCTION BEGUN ON THE MATANE-GASPE LINE.

Consul Frederick M. Ryder, of Rimouski, Quebec, furnishes the following information concerning the Matane-Gaspe railway and the country through which it will run:

Construction has begun upon this new Matane and Gaspe railway, which will run from St. Flavie, a small town on the Intercolonial Railway, 18 miles below Rimouski, and will ultimately have its terminus at Gaspe, a distance of 240 miles. The headquarters of the company is in the city of Quebec. For the present the first section only, for 37 miles from St. Flavie, is contemplated, and for this the contract is signed with a construction company under the management of an American, who has already accomplished considerable railroad building in this and neighboring provinces.

Although it is expected the road will be built finally as far as Gaspe, the company will bend every effort to complete it, as expeditiously as possible, to Mont Louis, a distance of 133 miles. It is said that this coast town has the finest protected harbor in Dominion waters. It is surrounded on three sides by high cliffs, with deep water up to the rocks. It extends inland over 2 miles and is open the year round.

The country between St. Flavie and Matane is well settled, the farming lands of this section being among the best in the province. Beyond Matane, as far as Mont Louis, it is mostly virgin forest, abounding in the finest timber, among which is an almost unlimited supply of cedar. The nature of the soil in this locality is said to be admirably adapted for farming purposes and will soon be taken up by permanent settlers.

The company is to receive bonuses from both governments, as well as from the towns and parishes through which the road will pass.

The Federal bonus varies from $3,200 to $6,000 per mile, depending upon the cost of construction; the provincial grant is 4,000 acres of land per mile, or 148,000 acres for the first section of 37 miles; the town of St. Flavie has voted $5,000; Little Metis, $500; Sandy Bay, $4,000; Riviere Blanche, $3,000; and Matane, $13,000.

This new railroad will prove a valuable feeder for the Intercolonial system, which it intersects at St. Flavie. A number of lumber mills are already located on the proposed line, one of the largest mills in the province having been in successful operation for several years at Matane. There are good water privileges along the route, and, doubtless, when shipping facilities are provided, there will be numerous lumber, wood pulp, and shingle mills scattered along the entire length of railway.

Aside from the lumber interests, the possibilities for developing an important industry in the fish traffic are encouraging. The entire coast is rich in halibut, salmon, cod, mackerel, and herring, so that with proper transportation facilities this valuable product can be placed in market a few hours after being taken from the sea.

BRITISH COLUMBIA.

EXTENSION OF THE ESQUIMALT-NANAIMO RAILWAY.

Consul Abraham E. Smith, of Victoria, supplies the following information concerning the progress of the extension of the Esquimalt-Nanaimo Railway and the anticipated results of its completion:

Work is actively progressing on the extension of the Esquimalt-Nanaimo Railway from Wellington, via Nanoose, to Alberni, at the east end of the Alberni Canal, Vancouver Island. It is now confidently expected that the new line will be in running order to Alberni during 1909. A large force of men have been at work on this extension, clearing the right of way. Efforts have been made by the company to avoid the sharp turns and steep grades which so harass transportation on portions of the main line from Victoria to Wellington. A large car ferry is now being built at Victoria to run from Nanoose to Vancouver, thus carrying freight and passengers without transshipment.

In view of the approaching completion of this line, large sections of timber land around Alberni have been purchased by American capitalists, who have also selected mill sites. The timber in this portion of Vancouver is very heavy, a large percentage being Douglas fir, though as Barkley Sound is approached spruce, hemlock, cedar, and also white pine abound in large quantities. At present, owing to the state of the market, nothing is being done in the way of cutting timber, though there can be no doubt as to the demand when business revives and the railroad is completed.

It is expected that when this extension is completed the Canadian Pacific Railway line of steamers will make their first call on this continent en route from the Orient at Alberni, which is situated on the so-called canal of the same name, approached from the Pacific Ocean through Barkley Sound, which is a fine water [illegible] of Cape Beale, and said to be clear of all dan[illegible] vessels afloat.

The railway route has also been surveyed [illegible] 30 miles from Victoria on the Esquimalt-[illegible]

Cowichan Lake, and a subsidy has been voted therefor by the Dominion Parliament, but it is not expected that work will be done on the proposed line until next year. Another line has also been surveyed from the Great Central Lake on the island, which lies to the northwestern end of Alberni, 11 miles from the terminus of the new line.

ONTARIO.

OPENING OF THE CANADIAN NORTHERN ONTARIO RAILWAY.

Consul George W. Shotts, of Sault Ste. Marie, forwards the following report concerning the importance of this new railway:

The Canadian Northern Ontario Railway, which has recently been opened for traffic between Toronto, Key Harbor, Sudbury, and the Moose Mountain mines at Sellwood, has brought into easy access the best fishing, hunting, and canoeing territory in the Province of Ontario.

Key Harbor, situated on the northwestern borders of the Georgian Bay, will in time become an important shipping point. The docks now built for the handling of iron ore are large and up to date, and also the lake-level docks and tracks built will give ample facilities for the transfer of freight and passengers.

For some years the principal freight must be the product of the mines and forests, but the plans of the railway company include the extension, eventually, westward to connect with other railways controlled by the company which reach Port Arthur and extend into the wheat belt of the Northwest. This will give a through line, and the principal port for transshipping will be Key Harbor.

MANITOBA.

A PORTION OF THE GRAND TRUNK PACIFIC BEING OPERATED.

In reporting the opening of a portion of the western line of the Grand Trunk Pacific Railroad on September 21 Consul-General John Edward Jones, of Winnipeg, writes:

This line extends from Winnipeg, Manitoba, to Wainwright, Alberta, a distance of 666 miles. This service is inaugurated, the officials of the road state, for the purpose of accommodating the new settlers along its line. No attempt will be made, it is stated, to operate a fast service, the company being content to furnish transportation to the settlers. From Winnipeg to Watrous, Saskatchewan, there will be a tri-weekly service, the train being known as a "mixed accommodation," and run only in daylight to divisional points.

MEXICO.

PROJECTED RAILWAY THROUGH COAHUILA AND CHIHUAHUA.

Consul Thomas W. Voetter, of Saltillo, furnishes the following information concerning a new railway project in the States of Coahuila and Chihuahua:

A new railroad is projected to pass through parts of the States of Coahuila and Chihuahua which are at present without railway facilities. The eastern terminus of this road is to be at Monclova, Coa-

huila, on the line of the Mexican International, and it is to extend in a northwesterly direction to Chihuahua, the capital of the State of the same name. The length of the new line will be about 375 miles.

The road will pass through excellent coal fields near Monclova, will then traverse timber, grazing, and agricultural lands, and near the western line of Coahuila it will go through a region with good iron and salt deposits. In Chihuahua it is to pass through a mineralized region, the ores of which are not now utilized for lack of transportation facilities and cheap fuel. The projectors believe that a line can be built with low grades so that cheap transportation of coal from the coal fields of Coahuila to the Chihuahua mining region can be made possible, while at the same time the iron ore along the line can be transported to a place where fuel for smelting is plentiful.

The engineers are expecting to start on the preliminary reconnoissance on August 10. If they report that the construction of a low-grade route is practicable there is but little doubt that the road will be constructed, as the promoters have ample capital and are interested in the resources of the region through which the road will pass. It is also expected that Government aid, in the shape of subsidies, will be forthcoming in case the report of the engineers is favorable.

CHINA.

RECEIPTS AND EXPENDITURES OF THE SHANTUNG RAILWAY.

Vice-Consul Ernest Vollmer has compiled the following statistics from the annual report of the Shantung Railway Company for 1907, which had reached Tsingtau from Germany early in July, 1908:

The year 1907 was considered a satisfactory one for the railway, enabling it to pay a 4¾ per cent dividend, against 4¼ in 1906. The year would have been better but for the stoppage of work in the Shantung mines, on account of an accident, and a heavy decline in silver, which constitutes the receipts of the company.

Prospects for the future are rather bright. A start has been made on the Tientsin-Pukow Railway. One of the main stations on this line will be Tsinanfu, the present terminus of the Shantung line. It is confidently hoped that when once a connection with the new line is had at Tsinanfu a large increase in the freight of the Shantung line will result, as a much larger territory can then be supplied through the port of Tsingtau. While the line from Tientsin to the Yangt is under construction, it is also practically certain that the S tu road will transport a large part of the needed material t interior.

The rolling stock of the road consists of 30 loc gage and passenger cars, and 760 freight and c a rule there are 14 mixed trains daily. A total or ing 496,190 miles, were necessary to handle the t Freight and passenger traffic were as follows: . freight, 409,430 tons.

The total receipts of the road were 1 $306,577 was from passengers, $803,572 r from other sources. The operating expe

CANTON-HANKOW RAILWAY.

CHINESE GOVERNMENT APPOINTS SUPREME AUTHORITY TO CONTROL.

Minister W. W. Rockhill sends from Peking the following translation of a Chinese Imperial edict, issued on July 18, directing Chang Chih-tung, grand councilor and member of the grand secretariat, to assume absolute control of the Canton-Hankow railway:

Ch'en Ch'i-t'ai (governor of Kiangsu) memorializes to the effect that the Canton-Hankow railway should be carried through under the direction of a single policy and requests that a high official of probity and intelligence be appointed to have supreme control of the affairs of the line.

The Canton-Hankow railway is of vital importance, in that it affects so intimately the means of communication between the north and the south. Chang Chih-tung was in charge of the negotiations at the time of the redemption of this line and was untiring in his efforts at that juncture. But during the last few years the divergent policies advocated by officials, gentry, and financiers have prevented any substantial accomplishments. If this state of affairs continues the consequent loss and delay in the progress of the road will be great. It is necessary, therefore, that we appoint an official who shall have supreme control of the affairs of the railway, so that they may be brought to a successful conclusion.

We command that Chang Chih-tung, grand councilor and member of the grand secretariat, shall assume, in addition to his other duties, absolute control of the Canton-Hankow railway. Let him act in consultation with the board of posts and communications and with the viceroys and governors of the three Provinces. Let him see that the officials, gentry, and financiers connected with the enterprise fulfill their duties with integrity. The said official may at all times come to such decisions as shall seem to him best, in view of the circumstances of the three Provinces. Let all dissensions now be terminated and unity of purpose prevail, to the end that useless expenditures and delays to the vital interests of transportation may be prevented.

ABYSSINIA.

CONTRACT AWARDED FOR THE CONSTRUCTION OF A NEW LINE.

Consul-General Frank D. Hill, of Barcelona, Spain, says it is reported that the Government of Abyssinia has approved the plans of the projected railway from Diré Dawa, via Harar, to Addis Ababa, the capital, and that a contract therefor has been signed with a French company, so that it is expected that Addis Ababa will soon be connected by rail with the French port of Jibuti, 528 miles distant.

SHIPPING TRAFFIC.

CUBA.

VAST FRUIT PRODUCTION WILL REQUIRE MANY NEW SHIPS.

Consul-General James L. Rodgers, of Habana, writes on the increasing Cuban soil productions for export, especially to American markets, and the large cargo requirements that will arise:

In the regular pineapple season, which, in volume, closed about the middle of July, it is estimated that very nearly 1,000,000 crates were shipped to ports in the United States, the great majority going to New York on the ships of the New York and Cuba Mail Steamship Company (Ward Line). It is announced that the Saratoga, of the line named, carried in one cargo nearly 41,000 crates.

The consideration of such tonnage as this from one crop alone naturally leads to the query as to what is to be done when the Cuban citrus fruit plantations of Americans come into full bearing. Tak-

ing 25,000 crates of pineapples as an average load for one of the present vessels of the Ward Line and placing the shipment to New York at 750,000 crates, it means that a minimum of 30 shiploads would be required for the cargo during the season, which at its height lasted about thirteen weeks.

However, as a matter of fact, pineapples are shipped from Cuba in nearly every month of the year, so the carrying season is extended over a much longer period and the facilities now existing for transportation are ample for the crop of the present. But they will not be for the future, because the acreage of pineapples around Habana is increasing rapidly and under favorable weather conditions next year will see a great advance in the shipments.

A PROSPECTIVE FLOOD OF TROPICAL FRUITS.

Following the pineapple harvest ensues that of the oranges and the vegetables for the northern market. It is stated broadly that in Cuba and the Isle of Pines there have been planted 2,000,000 citrus fruit trees, the majority of which are in territory which uses Habana as a shipping port. These citrus fruit groves, principally owned by Americans, are not yet in full bearing, although some are approaching that condition. In five more years nearly every grove now planted will be producing a bountiful harvest. A modest estimate of full production is two boxes to the tree, and there is no good reason to believe that the Cuban groves will not reach that yield.

As orange crates are almost indentical in size with pineapple crates, the same basis of comparison as to a shipload can be used. Therefore, if a full crop from Cuba's citrus fruit groves of the present alone could be obtained it would require a total of 160 steamships carrying 25,000 crates each. Even half a crop during the season would overtax the existing capacity without taking into account the great quantities of vegetables, as tomatoes, eggplants, peppers, squash, and okra, which are now being grown on a large and constantly increasing scale.

Of course such a deluge of cargo would come by degrees and the statements probably represent nearer the maximum than the minimum production. But the intent of this is to call attention to the possibilities of such tonnage from Cuba in the future and to suggest the consequences. Cuba, with the aid of comparatively few Americans and Spaniards (the pineapple growers in the main), can easily produce a fruit and vegetable tonnage for American markets which will soon have an effect upon the prices.

As an illustration, it was announced recently, to the dismay of many, that pineapples were selling at 74 cents a crate in New York. Whether, therefore, some of the Cuban fruit and vegetable product is to rot or all is to be shipped remains to be seen. If the latter, then more carrying capacity must be speedily supplied, for with this tonnage under question, added to the sugar and tobacco, the hard woods, and the miscellaneous cargo which will go on in increasing volume, there must be a great increase in ships of regular lines.

FUTURE AND PI[illegible] LIN[illegible]

There have been m[illegible] re [illegible] in [illegible] re[illegible] ly to new steamship lines but as [illegible] e one from Boston (The [illegible] ll inaugurate a service com[illegible] ng enterprise dis[illegible]

would afford quick communication with the manufacturing South, and a speedy transit of passengers and freight to and from populous districts south and north of the Ohio River. The cargo for Cuba originating in Georgia and the eastern South is already of very large volume and is increasing steadily.

The present regular passenger and freight service between Habana and United States ports consists of biweekly ships of the Ward Line, one Southern Pacific ship to New Orleans, one weekly Munson Line to Mobile, one United Steamship vessel every ten days to Galveston, Tex., and five Peninsular and Occidental Steamship Company's steamers weekly to Key West, Tampa, and Knights Key, Fla., this being almost exclusively a passenger and mail line. In the autumn and winter the Southern Pacific service is doubled. It is rumored that the Ward Line will next year establish a triweekly service, and if such is to be a fact, it will be an early recognition of the apparently inevitable necessity. For optimistic as may seem the assertions of those who are now figuring on Cuba's future cargo for the United States, it can easily be understood by those who are here watching the development that the present statements are conservative.

A need of the future which will become as pronounced as the necessity for greater carrying capacity from Habana under the realization of the increase of tonnage will be the amplification of the dock and handling facilities of this city. They are almost inadequate at the present time.

UNITED KINGDOM.

COMMERCE BETWEEN WEST OF ENGLAND AND THE PACIFIC STATES.

Consul J. Perry Worden furnishes the following information concerning the establishment of a line of communication between Bristol and the Pacific States:

Owing to the efforts of the Bristol docks committee, following the opening of the new dock at Avonmouth, to increase the shipping coming here, the French Steamship Company, Chargeur Reunis, have decided to make Avonmouth a port of call for several of its steamers, on condition that a certain minimum quantity of canned or other goods is shipped from the United States to Bristol by each steamer. The first steamship scheduled to open the new service, the Admiral Magon, was to have left Seattle July 23 and San Francisco on August 8, to be followed, it is understood, by the Admiral Exelmans, booked to leave Seattle about the middle of September and San Francisco some ten or twelve days later. On the success of the company in securing outward shipments of freight from the United States will depend the continuation of the service.

This new venture is of very considerable importance, not merely to the management of the new Avonmouth dock and British merchants, but to American traders on the Pacific coast. Careful investigation of certain products that are known to come from the western States to the west of England and the new and very favorable rates which the Bristol docks committee are prepared to offer to foreign shippers indicates that American exporters desiring to avail themselves of steamers which, in some cases at least, can not enter certain small ports, but which in any case can put into the docks at Bristol, may send their goods direct to Bristol and receive from the Bristol

authorities such low and stimulating rates for dock fees and transshipment to neighboring points as to enable them to reach any port on the west coast of England, via Bristol.

The dock charges at Avonmouth are exceedingly low, owing in part to the modern appliances installed there for the handling of freight, and the probabilities are that shipments may be made through Seattle, San Francisco, and other centers to various towns in the west of England quite as cheaply, and in some cases cheaper, than if the goods were sent direct in less capacious vessels. Fruit in cans, ores, and other freight may be forwarded under conditions perhaps never before so favorable to the building up of trade between the Pacific slope and this section of the United Kingdom, and what is chiefly asked is that the American merchants interested continue to give the company the necessary minimum supply of cargo. If in addition American merchants in the West can provide some return cargo also, this new experiment, from which so much is hoped, may be made successful, and the service permanently established.

DEPRESSION IN SHIPPING.

REDUCED PRODUCTION OF NEW TONNAGE IN THE UNITED KINGDOM.

Consul Horace W. Metcalf, of Newcastle-on-Tyne, transmits extracts from local newspapers concerning the depression in British shipping, from which the following information is extracted:

The amount of tonnage added to the British register is now being greatly reduced by the depression in shipbuilding, assisted by the engineers' strike. Until recently the number of vessels added to the British fleet was far too large for the market to stand; but it is now clear that the supply is being adjusted to the demand, and for some time to come we shall see just about enough new shipping added to the register to cover removals therefrom. For the six months ended June 30, 1908, the net addition to the register has been 36,493 tons, against 255,672 tons in the first half of 1907. In other words, the net increase at present is only at the rate of 70,000 tons per annum, as compared with an increase of over half a million tons for 1907.

The estimate of the total amount of new tonnage to be turned out in the United Kingdom this year is about 1,200,000 tons, which, compared with about 2,000,000 tons in 1907 and about 1,600,000 tons in 1906, should ameliorate the situation.

CHINA.

TRAFFIC ON THE YANGTSE RIVER.

Consul-General Charles Denby, of Shanghai, transmits the following article from a local newspaper concerning the shipping congestion on the Yangtse:

The growth of the shipping traffic on the Yangtse has been rapid and remarkable. Japan, the United Kingdom, France, Germany, and China have each a line of steamships on the river, and at the present time there are about 90,000 tons of merchantmen engaged in the traffic. Last year the four Japanese companies united in one organization and placed many new vessels in the service, which helped to bring on an exceedingly violent competition. On top of the tremendous increase in the number of vessels placed in the service came the period of trade inactivity in China, but the decrease in freight did not decrease the number of the ships, and the competition became unbearable. Toward the close of last year the rate on passenger traffic on the Yangtse

dropped to an unheard-of extent. The fare from Shanghai to Hankow, 600 miles, was reduced to 1 yen (50 cents gold). Three years ago it was 6 yen. The freight rate dropped in proportion.

The other day representatives of the British, German, French, and Japanese companies met in conference at Shanghai and discussed the possibility of working out an equitable passenger and freight rate, but nothing resulted therefrom.

The Japanese company ranks first in tonnage of ships, with its fifteen vessels of a total tonnage of 29,000. Against this combination the Chinese Government line, the Jardine Line and the Butterfield Line have combined. Those three companies have long experience and have a strong hold on the business, which they created long before the newcomers entered the field. The German line is comparatively new, and the French line has only three vessels.

WORLD'S SHIPPING.

THE GREATER PART OF THE WORLD'S TONNAGE NOW UNPRODUCTIVE.

Consul-General Henry W. Diederich, of Antwerp, furnishes the following statistics concerning the present depressed condition of the world's shipping trade:

During the first three months of the current year the houses engaged in transportation at Antwerp were quite busy, although the trade in articles of luxury, such as cloths, silks, wines, preserves, etc., had begun to fall off; in staple goods, however, the heavy contracts signed before the crisis were continued. Soon, however, the lack of credit made itself felt, and these contracts were either suspended or not renewed after being filled. The transportation of raw materials, cement, rails, and structural material of all kinds, which forms one of the greatest trades of Antwerp, fell off to an extent hitherto unknown, and for the last four or five months the transportation of such material has practically ceased.

The same state of affairs, or worse, exists in the ports of other countries. Since the beginning of the present year, Rotterdam has lost 744,000 tons, against the same period of 1907, while the loss sustained by Antwerp for the same length of time, as compared with 1907, is only 228,000 tons.

The greater part of the world's tonnage for several months has remained unproductive. The home ports of the great ocean liners are filled with steamers lying idle, and even at Antwerp, which is only a port of call, more than thirty big steamers are laid up. Only recently a large steamer, belonging to one of the Far East lines, whose expenses amount to $200 a day, was obliged to wait at Antwerp three days in order to find 100 tons of cargo. Passenger steamers coming from South America to Europe have been obliged to pay for the privilege of carrying grain in order to get ballast. Freights to India, which were formerly 15 to 20 shillings ($3.65 to $4.86) a ton, have now been reduced to 5 to 7 shillings ($1.22 to $1.70). Transportation from Antwerp to the Scandinavian ports, which formerly was a flourishing business, has become insignificant, while the Far East, for which steamers formerly loaded large cargoes, imports scarcely enough to warrant the vessels calling at European ports.

Similar conditions prevail in the emigration business. In July, 1907, the Red Star Line transported from Antwerp to New York 5,170 third-class passengers, while last July the same company carried only 1,510.

The outlook for better conditions at the beginning of 1909, however, seems good.

STEAMSHIP LINES.

CHINA.

COAST AND RIVER SHIPPING IN NORTHERN WATERS.

The following information concerning the coast and river shipping in North China was prepared by Edgar Kopp, United States marshal at Chefoo, and forwarded by Vice-Consul C. L. L. Williams, of that place:

Since 1900 the influx of foreign visitors into North China has been rapidly increasing, and all the steamship companies, coast and river, which cater for passenger traffic have tried to place up-to-date vessels in service, and they boast that their vessels, for comfort and accommodations, are not surpassed by the Atlantic lines. The steamships of two British lines, one German line, and one Chinese line, the latter being patronized chiefly by Chinese officials and merchants, compose the fleet which brings freight and passengers from Shanghai north to Chefoo and Tientsin.

A vessel of some one of the foregoing lines leaves Shanghai daily, covering the distance to Chefoo in less than two days, and, after a short stop at Chefoo, reaches Taku Bar, at the mouth of the Pei-Ho, in nineteen hours. As a result of recent dredging, vessels of 13 feet draft can cross the bar at high water and proceed to Tientsin. The dredging of the bar has been abandoned, as hard bottom was reached at the foregoing depth.

The cost of the trip from Shanghai to Tientsin ranges from $22 to $29 gold.

Besides the foregoing lines, a Chinese mining company runs vessels semiweekly to Chianwangtao direct.

The foregoing companies handle all the freight which is entered at Shanghai for transshipment.

CHEFOO AS A TRANSSHIPMENT PORT.

As a seaport for transshipment Chefoo ranks second to Shanghai only, owing to its central location in the northern district. Small Japanese ships arrive from and leave for Dalny (Tairen) almost daily, making the trip over night, and connecting with the Siberian Railway. Three or four times a week connection is made with Port Arthur, the trip being made in eight hours. Semiweekly connection is had with Chemulpo, Korea, taking about a day for the trip. Antung and Tatunkow, newly opened ports on the Yalu River, Manchuria, are also directly connected. A boat runs daily to Weihaiwei, taking about four hours, while connection is made with Tengchowfu and other Chinese towns, along the coast of Shantung, as opportunity arises. These small Japanese ships do not cater for Europeans, but they are the only boats available with a scheduled run. Passage can be secured at reasonable rates, but no meals are provided. A Chinese company and a British company run nonschedule steamers to Newchwang and Dalny. There is also a direct service between Shanghai and Newchwang.

Two Japanese companies run ships between Japan and Tientsin, with good accommodations, which call at Chefoo, while other ships of the same companies connect Japan with Dalny and Port Arthur. These two lines carry much of the trans-Pacific freight and all the

mail for the north of China, it having been transshipped in Japan from their Pacific steamers, thus saving from three to five days in transmission.

Chinese, Japanese, and Norwegian ships share the trade to Vladivostok and Sakhalin. Accommodation aboard of these is not of first-class order, although first-class accommodation can be secured in Shanghai.

SHIPPING ON THE YANG-TSE.

Shipping on the Yang-tse is shared by a French company, two British companies, one German company, and one Chinese company, which monopolize the European passenger traffic, while three Japanese lines, a British line, and British and Norwegian tramp steamers handle freight and coolies only. The trip from Shanghai to Hankow is covered in less than five days, with stops at Chinkiang, Nanking, Wuhu, and Kiukiang. The round trip costs about $65 gold. Above Hankow to Shasi and Ichang smaller draft vessels are largely used for freight and passenger conveyance.

It might be mentioned that the two British companies and the Chinese company have formed a combine against the German line, and have agreed to unify passenger and freight rates on all their branch lines in China.

SIAM.

ESTABLISHMENT OF A CARGO LINE FROM BANGKOK TO EUROPE.

Consul-General John Van A. MacMurray furnishes the following information concerning the establishment of a European-Bangkok line of freight steamers:

A Copenhagen company, which has hitherto had three cargo steamers running directly, but at irregular intervals, between Copenhagen and Bangkok, will, on or before January 1, 1909, inaugurate a regular monthly service. Two of the old steamers, of about 4,000 tons each, of a speed of 10 knots, will be retained for this service, and three new 10-knot steamers, of about 5,000 tons each, will be added. These new steamers will be so constructed that they can cross the bar in full cargo, thus eliminating the necessity of stopping to lighten at Kohsichang or Sriracha by transferring a portion of the cargo to lighters to be transported the remaining 60 miles to Bangkok. On the eastward route the steamers will call at Middlesborough, Antwerp, and Singapore; on the westward route, at Singapore, Marseille, and London.

The establishment of this service will afford an opportunity for shipments from the Atlantic ports of the United States to be sent through to Bangkok, via either Copenhagen or Antwerp, with only one transshipment, and with a consequent minimum of delay and of handling. [Copies of freight tariff are on file in the Bureau of Manufactures.]

JAPAN.

NEW STEAMSHIP LINE TO THE UNITED STATES.

Vice-Consul Walter Gassett, of Kobe, reports that the Asaka Shosen Kaisha, the second largest steamship company in Japan, which has hitherto devoted its attention to the local coasting trade and to

that of neighboring oriental countries, has now completed arrangements to start a line to the United States, viz., a semimonthly service, with six vessels, with Tacoma and Seattle as starting points, and Hongkong as the terminus. An agreement to this effect has been signed with the Chicago, Milwaukee and St. Paul Railway Company, and the service may consequently be opened at the beginning of August, 1909. The six vessels are now being built, three at Kobe and three at Nagasaki.

UNITED KINGDOM.

LARGEST PASSENGER VESSELS TO BE BUILT AT BELFAST

Consul Samuel S. Knabenshue reports that a Belfast firm of shipbuilders are constructing two new slips, which will enable vessels 1,000 feet in length to be built, to which he adds:

There are two gantries, 225 feet high, running the entire length of these slips. Each gantry is supported on 33 columns, each over 180 feet in height, and will be supplied with pneumatic riveters and lifting cranes. The new slips will be completed in November next. As soon as these slips are completed the keels of two new vessels for the White Star Line will be laid, each 860 feet in length. These steamships will be completed in 1910, and will be larger than any vessel now afloat.

The details of these proposed vessels are herewith given, as compared with the Lusitania and Mauretania:

Description.	Lusitania and Mauretania.	New White Star Liners.
Length	790 feet	860 feet.
Breadth	88 feet	92 feet.
Tonnage	33,000	45,000–50,000.
Speed	25 knots	19 to 20 knots.
Engines	Turbine	Turbine and piston combined.

FRANCE.

NEW LINE OF STEAMSHIPS TO HABANA AND NEW ORLEANS.

The following information concerning the establishment of a new line of steamships from Havre and Bordeaux to New Orleans is furnished by Consul D. I. Murphy, of Bordeaux, under date of September 4:

Beginning with September 5, the Compagnie Générale Transatlantique inaugurates its new service to Habana and New Orleans. Two new ships, the Floride and the Caroline (the latter being a twin-screw steamer), of 5,000 tons, are being put on the line. There will be two sailings per month from Havre and Bordeaux, with excellent accommodations for passengers.

The same company is also preparing to run two new ships on the line between Dunkirk, Bordeaux, and New York, with sailings twice each month. The inauguration of this last-mentioned additional service only awaits the expected revival of business in the United States, the company in the meantime continuing the active preparation of the steamships.

SPAIN.

STEAMSHIP SERVICE BETWEEN BILBAO AND PORTO RICO.

The following information concerning the inauguration of a new steamship service by the Hamburg-American Line, from Bilbao to Porto Rico, is furnished by Consular Agent Luis Karakadze, of the Spanish port:

With reference to the Hamburg-American Line for Porto Rico, the second sailing from this port was on August 18. The company has inaugurated this service with the object of carrying freight and passengers to Porto Rican ports. The service of the Spanish Transatlantic Company, which heretofore held the trade, was not direct, as merchandise embarked at Bilbao was transshipped at Cadiz to the regular liner from Barcelona to Porto Rico.

The steamers of the new line sail from Hamburg once a month, calling at Bilbao, Porto Rico, Colon, and Central America. A great saving of time is effected by this direct service. Merchants were prompt to take advantage of the improved conditions, and at once began to ship their goods by the new line. No passengers have as yet embarked on the ships of this line.

NEW GOVERNMENT LINES.

STEAMSHIP SERVICE TO NORTH AND SOUTH AMERICAN POINTS.

A report published in the Moniteur Official du Commerce, of Paris, relative to the establishment of several new Spanish lines, states as follows:

The British consul-general at New York reports that the Ibero-American-Viscaya Union proposes to create six new steamship lines—two to the West Indies, New Orleans, and the Gulf of Mexico, two to South America, and two to New York and neighboring ports. The vessels suggested vary between 14,000 and 18,000 tons, with speed ranging from 17 to 18 knots. According to these announcements it is proposed by the Spanish Government to grant a twenty-year concession, with certain conditions as to capacity and speed, to be modified as time goes on, one of the conditions being that Spanish goods shall benefit by a reduction of 5 per cent under current freights by competing companies. The project will be accorded a subsidy of 8,000,000 pesetas (about $1,360,000) annually.

CUBA.

PROPOSED LINES AND IMPROVEMENTS IN AMERICAN SERVICE.

Deputy Consul-General Henry P. Starrett, of Habana, makes the following report on new steamship lines proposed for Cuba, and a change in service of an existing line:

The Tampa, Key West and Habana Steamship Company, a new corporation capitalized at $500,000, will inaugurate a new line of steamers between Tampa, Key West, and Habana, making the trip in twenty or twenty-four hours, a saving of time over the present service of from six to ten hours. The plans of the company are to give a biweekly service for the present, and later it is intended to operate a daily service between the ports named. The company will start with one steamer of about 2,500 tons capacity, which will be

equipped for carrying passengers as well as freight. One feature of this new line which will meet with the approval of the traveling public is that all its boats will make their landing at the docks at Tampa instead of at Port Tampa, this being the result of the harbor work which has just been completed in Tampa Bay.

The Texas City Steamship Company, a new concern organized under the laws of the State of New York, proposes to operate a fleet of eleven steamers, for passengers and freight, between the ports of New York, Habana, New Orleans, and Texas City. The operation of this service will probably be inaugurated about October 1.

It is stated on good authority that the Peninsular and Occidental Steamship Company, which operates a line of steamers between Habana and Florida ports, will increase their Knights Key service from a biweekly to a daily one, commencing some time before the winter-tourist season sets in. Knights Key is the present southern terminus of the Florida East Coast Railroad. This reported improvement on the part of the Peninsular and Occidental Company is meeting with great approval among the business men and people of Cuba.

COLOMBIA.

STEAMBOAT COMPETITION ON THE MAGDALENA RIVER.

Consul Isaac A. Manning, of Cartagena, sends the following report on the renewed competition of shipping interests on Columbian inland waters:

Complaining that freight rates on the Magdalena River are too high, the commercial interests of the Department of Antioquia, including the important commercial cities of Medellin, Ibague, and Manizales, have revived the old Compañía Antioquena de Trasportes, with an authorized capitalization of $200,000, which will again enter into competition with the steamboat alliance, or the combined steamboat companies, owned by the Gieseken interests, which includes the Government of Colombia among its stockholders, and the Magdalena River Steamboat Company, of London.

The capital subscribed in the new company is said to be $135,000, and $13,500 has already been paid up, the balance being subject to immediate call. It is understood the company has placed an order with a Philadelphia firm for two stern-wheel steamers of about 250 or 300 tons' burden, with instructions for their early delivery. The company has also purchased a water front in Barranquilla for dockyards, etc., and it is said that a small steamer of 100 tons, recently built in the latter place, will also belong to and be operated by the new company. Juan de la Cruz Escobar, of Medellin, is resident director of the new company.

The former Compañía Antioquena de Trasportes sold its boats and interests to the new Gieseken company in 1905, retiring from the transportation business at a time when competition made the business unprofitable, a competition which did not cease until early in 1908. The absorption of the various small companies by a new company, and the rate and proportional freight agreement of that company with the Magdalena River Steamboat Company, resulted in establishing rates again on a basis of profit.

Another new company will probably affect the alliance in the amount of freight represented by their full capacity. The freight

handled for the district in which the new company is owned amounts to about 14,000 tons in and out of Puerto Berrio, and perhaps half that much in and out of La Dorada per year. Of this amount, about 55 per cent is product of the country for export, 90 per cent of which is coffee, the remainder being principally hides, minerals, gold, etc.

HARBOR IMPROVEMENTS.

ENGLAND.

LIVERPOOL DOCK MANAGED FOR PUBLIC GOOD, AND NOT FOR PRIVATE GAIN.

Consul John L. Griffiths, of Liverpool, gives a review of the development and management of the extensive dock and wharf system in and around Liverpool; also a description, accompanied by charts, of proposed new docks. Following is his report:

The whole of the dock system of Liverpool, including docks, quays, sheds, dredgers, cranes, warehouses on the dock estate for the storage of goods, and the railway track along the line of docks, is owned by the Mersey Docks and Harbor Board as public trustees. The pilot service of the port is also controlled by the dock board. Prior to the year 1857 the docks, and the works in connection therewith on the Liverpool side of the river Mersey, were under the control of a dock committee whose proceedings, however, were subject to the approval of the Liverpool city council as trustees of the Liverpool docks. The docks on the Birkenhead side of the river were owned by a body called the Birkenhead Dock Company until the year 1856, when that body, being unable to profitably work them, the docks were purchased by the corporation of Liverpool.

By the "Mersey Docks and Harbor Board Act, 1857," the control and management of the docks at Liverpool and Birkenhead became vested in the present board. The board consists of 28 members, of whom 24 are elected by the dock ratepayers. The other 4 members are appointed by the conservancy commissioners of the river Mersey. The members of the board receive no remuneration. Each member is elected for a term of four years, and is eligible for reelection. The qualification of an elector is the payment to the board by himself, or by any other person on his behalf, without regard to the place in which his business is carried on, of rates due from him in respect of ships or goods to an amount of not less than £10 ($48.60) in the year preceding August. He must, however, be a British subject, or if a foreigner, be resident in the United Kingdom, and his name must be on the list of dock electors.

LONDON TO ADOPT LIVERPOOL SYSTEM.

The Mersey Docks and Harbor Board is a unique organization. It is a trust in the sense that it controls all the docks in the vicinity of Liverpool with the exception of the docks at Garston, 8 miles from Liverpool, but it is a trust that is operated without thought or purpose of private gain. The only dividends that it declares are expressed in the growing prosperity of the port.

The management of this trust has been so efficient that it has met not only with the approval of the municipality of Liverpool, but

has attracted wide attention throughout the United Kingdom, and to such an extent that the bill now pending in Parliament, known as the port of London bill for the reconstruction and reorganization of the dock system of that city, is modeled on the Liverpool plan. Some time ago a publication appeared giving a history of the port of Liverpool, beginning with the middle of the seventeenth century, and it is brought down to a comparatively recent time. The article is profusely illustrated and gives a great deal of information concerning the management of the docks of this port.

In reading it one will readily see the different steps which have been taken to acquire the various properties which now constitute the dock estate, and the systematic, efficient, and progressive manner in which that estate is administered.

The dock board receipts for the year ending June 30, 1908, were as follows:

Rates on vessels:		Rates and dues on goods:	
Tonnage and harbor rates	$3,355,898	Dock rates	$1,720,319
Graving dock and gridiron rates	189,156	Town dues	1,459,618
Dock rent	41,597	Total rates and dues on goods	3,179,937
Total rates on vessels	3,586,651	Grand total receipts	6,766,588

CONSTRUCTION AND REPAIR—RATES FOR SHED SPACE.

The money required for the construction of docks and other works is obtained by borrowing powers authorized by acts of Parliament. Large sums are spent upon the docks from year to year out of revenue, and it has therefore been found impossible to state, even approximately, what the total cost of the docks amounts to.

A charge of 60 cents per square yard per annum is made for shed space at all appropriated berths on the Liverpool side of the Mersey, and a charge of 48 cents per square yard per annum is made for shed space at all such berths on the Birkenhead side of the river. All appropriated berths are held during the pleasure of the board.

There are no piers at Liverpool which are used similarly to those at New York. Vessels arriving at Liverpool enter the docks to discharge and load their cargoes, and use the Liverpool landing stage to embark and disembark passengers, if required.

No special charge is made for the use of the landing stage by vessels which use the docks, the dock tonnage rates paid on the vessels when entering the docks covering the use of the landing stage.

The dock sheds are built and owned by the dock board. The appropriation of a berth to a particular company includes the use of the shed adjoining for the reception of cargo. Appropriated berths in the docks and the shedding adjoining the same are held only at the pleasure of the board.

Owing to the local tide conditions, impounded docks are the rule at Liverpool, and, as already stated, there are no piers. In docks of the most recent type, the distance between the principal parallel quays of adjoining docks is about 280 feet, taken up as follows: On each quay, sheds about 95 feet wide, with outer quay margin of 5 to 8½ feet, the balance of width forming a roadway between the sheds. The sheds are of double stories, with large headroom on ground and upper floors, very substantially constructed of steel, slated roof,

ground floor of granite cube sets on concrete foundation, upper floor of concrete on steel-rolled joists having a hard top surface of granolithic concrete.

The cranes for discharging cargo are carried on the roof of the dock side span of shed, and there are power delivery cranes on the roadside of the shed at the doorways, and appliances for lowering from catheads there, in addition to others lowering through hatchways in the inside of the shed.

The modern dock quay walls are solidly constructed of concrete, and cost about $632 per linear yard.

PROPOSED NEW DOCKS.

In May last the Mersey docks and harbor board decided to proceed with the construction of the new docks, at an estimated cost of $15,573,384, particulars of which are as follows:

A vestibule or half-tide dock, with a river-lock entrance 870 feet in length and 130 feet in width, and having a sill 30 feet below old dock sill, the foreshore in front of the said entrance being lowered to suit the sill level, and the river wall being underpinned and faced. Estimated cost, $6,700,968.

A lock 645 feet in length and 90 feet in width, having sills 20½ feet below old dock sill, between the Hornby dock and the new half-tide dock refered to. Estimated cost, $994,356.

A branch dock, opening out of the half-tide dock, and immediately to the north of the present timber storage ground, and having on the north side a double-story shed 1,295 feet in length and 100 feet in width, and on the south side a similar shed 1,465 feet in length and 150 feet in width, with the necessary paving and railway sidings, $4,281,660.

A branch dock, also opening out of the half-tide dock to the north of the branch dock, and having on the north side thereof a double-story shed 1,265 feet in length and 100 feet in width, and on the south side a similar shed 1,295 feet in length and 100 feet in width, with the necessary paving and railway sidings, $3,606,400.

BUILDING FOR THE FUTURE.

The chairman of the dock board, when introducing the scheme for ratification by the board, said:

In 1887 the largest ships leaving the port were 560 feet long; in 1897 the ships had grown to 625 feet, and last year the largest ship was 760 feet. The amount of money involved by the scheme was a substantial one, but it had to be borne in mind that the spending of this money would be spread over a number of years. He did not think it possible that the docks could be made in less than five or six years, and it might take a little longer time; consequently, if the sum were divided into five or six, it did not seem so serious.

It was proposed to make the entrance lock 40 feet below the old dock sill, The river-entrance lock would be 870 feet long, 130 feet wide, with a sill 30 feet below the old dock sill, which meant that on a 10-foot tide, the lowest neap tide they had, there would be 40 feet of water. As to the depth of water, they had had considerable discussion in committee. Some thought they might content themselves with 25 feet instead of 30 feet, but the addition of the extra 5 feet was so small a percentage on the sum involved, and seeing the depth of water they were getting in other places—in New York they were going to get 40 feet, in Mexico they were talking about getting 35 feet, and he understood that the engineer of the Suez Canal had ambitions of having 36 feet of water in that canal to enable men-of-war to go through, and vessels going to India and China which might, in the course of a few years, want 40 feet—the board ought to have no hesitation in accepting the depth proposed in the scheme. The

lock to the Hornby dock would be 645 feet long, 90 feet wide, and the sill 20½ feet below the old dock sill. They would see that in future it would no doubt be used as a gateway to go to other docks farther north, but in the meanwhile, with the assistance of the lock of the Hornby dock it would materially aid the work of the Hornby, the Alexandra, and the other system of docks, to get out of which they had at present to go a long way south. The No. 1 branch dock would be 13 acres in area. Its quays on one side would be 1,480 feet in length, and on the other side 1,215 feet. There would be double-story sheds with an area of 77,610 yards. No. 2 branch dock would have an area of 12¼ acres; the quay on one side would be 1,265 feet, and on the other 1,235 feet, and the shed space would be 56,888 yards.

BRISTOL'S NEW DOCK.

THE CITY EXPECTS AN INCREASED SHIPPING TRADE THEREBY.

Consul J. Perry Worden furnishes the following information concerning the new dock at Avonmouth, Bristol, which was formally opened by the King and Queen of the United Kingdom on July 9:

Bristol, in completing this $13,000,000 enterprise, naturally looks for a revival of her maritime trade, and again hopes are expressed that the United States will be among the leading contributors to the success of the new dock at Avonmouth. Apparently there are advantages for Bristol over some of its competitors, and it would seem that no pains or expense have been spared to build the dock as substantially as possible and on the most scientific lines. It is pointed out that several hours may be saved in the transportation of passengers and mails between New York and Bristol, as compared with the time required from New York to London, Southampton, and other ports, and that Bristol will have facilities for the handling and reshipment of interior freight hardly enjoyed by any of the rival cities. Since influences are at work to favor the establishment of a Canadian passenger and mail service between Canada and Bristol, it is the wish of many that a similar movement may make for the founding of an American line between New York or Boston and this port.

HOW THE DOCK WAS BUILT.

In the building of this new dock concrete was used in enormous quantities and in two strikingly dissimilar ways. For the walls of the new dock bedrock was reached by excavating deep trenches through the softer strata. At an average of about 70 feet below the greensward the rock became so hard that to remove it would have required blasting. Upon this was built up the dock wall. Concrete mixing machines above showered down the wet material and it was rammed between the timber molding covering its shape. Where, however, circumstances rendered it difficult or inadvisable to get down to rock foundations by excavations, they were reached in another way, by sinking monoliths through the softer strata until a firm basis had been reached. The piers are constructed of monoliths or columns of solidified concrete with their base resting on the rock 40 or 50 feet below the surface. The pierheads are formed of two monster circular monoliths, each 60 feet in diameter and 80 feet from coping to foundation. A breastwork of timber keeps the vessel from making contact with the masonry.

SIZE AND CAPACITY OF THE DOCK.

Some idea of the size and capacity of the new Royal Edward Dock may be gathered from the facts that the lock, with a length of 875

feet and width of 100 feet, can admit any of the largest liners afloat, and that there is a graving dock 850 feet in length, near which there are importing sheds in which can be stored 50,000 quarters of grain. The large basin has a width of 1,000 feet, and a length of 1,200 feet, and two branches 1,800 feet long and 300 wide may soon be projected. The 30 acres of dock area are surrounded by railway lines, and the geographical position of the dock promises much for its future usefulness.

The dimensions of the dock are such that one of the new Cunarders would have plenty of room between the gates of the entrance lock, and in the basin she would have space enough to swing in preparation for her outward voyage; while in the graving dock her hull, or the hull of the largest battle ship in the British navy, could be examined and repaired.

Not only has Bristol a population going on to 400,000, but within a radius of 50 miles there are 2,500,000 people, and double that number are accounted for if the compass be stretched 25 miles from the center.

CHILE.

VALPARAISO HARBOR CONTRACT GIVEN TO A FRENCH COMPANY.

The following information concerning the proposed improvements in the port of Valparaiso is furnished by Minister John Hicks, of Santiago:

The harbor of Valparaiso has long been a great drawback to the commercial prosperity of Chile, for the reason that it is simply an open roadstead, with no docks or protection from storms. Ships are unloaded and loaded while anchored in the bay, and goods are often piled for weeks on the shore waiting for transportation inland. Since the earthquake of August 16, 1906, the situation has been made much worse by the destruction of buildings and the consequent crippling of facilities for loading and unloading ships.

The Government has had under consideration various plans for the construction of a series of docks and port improvements, and the whole subject has been in charge of an English engineer, Mr. Adam Scott, who was engaged for many years in the work of improving the fortifications and harbor facilities at Gibraltar. On Saturday last the contract was finally let for the Valparaiso work to the house of Batignolles, Fould & Co., a French company, according to plans made for the Government by the engineer. The price to be paid is £4,000,000 ($19,466,000).

Contrary to the custom which prevails in the United States, the Government did not advertise for bids or throw the work open to the competition of the world.

The work is very large and comprehends the following points: A breakwater 1,000 meters (3,281 feet) long; docks 2,000 meters (6,562 feet) long, at which ships can touch; rock work extending the docks toward Fuerte Andes; roads to connect the docks; coal docks, and all the machinery and equipments for the works. The work is to be entirely completed in seven years.

The company must deposit in a bank to the order of the Government a guarantee of 1,000,000 francs ($193,000) for the faithful ex-

ecution of the work, the Government to furnish the lands necessary, and to admit tools and material free of duty. Only war or earthquake will release the company from its contract. The company is obliged to bring in at least half of its workmen from outside Chile.

HOW THE COMPANY WILL BE PAID.

To collect the amount of the contract, the company can operate the docks and port works for thirty-two years, the dues and tolls to be agreed upon between the Government and the company, the thirty-two years commencing at the conclusion of the works. The Government guarantees 5 per cent interest on the £4,000,000, with 2 per cent additional for amortization. The rest of the contract is devoted to the minor particulars.

In other words, the company is to do all the work, furnish all the material, the Government simply guaranteeing interest on the sum expended. The company then is to have the use of the docks for thirty-two years, and is to recoup itself for all its expenses by enjoying the income from the docks for the time mentioned.

It is extremely doubtful if an American company would care to enter upon such an enormous undertaking under such conditions. To look forward thirty-nine years to the fulfillment of a contract is something quite unusual.

Valparaiso has been waiting patiently for the beginning of this work, and it is hoped that the closing of the contract will infuse new confidence into business affairs, which have been badly depressed.

BRAZIL.

LARGE EXTENSION OF THE RIO DE JANEIRO DOCKS IS PLANNED.

Consul-General George E. Anderson advises that plans for the extension of the new dock system of Rio de Janeiro, now being completed and which, when completed under present contracts, will be the greatest dock system in South America, have been announced by Brazilian Government engineers.

The plans announced provide for the building of an extension of 15,800 meters (51,824 feet), or about 10 miles of docks, in addition to the 3,200 meters (10,496 feet), or substantially 2 miles, already provided for. It is planned to secure this additional dockage by building piers at right angles to the shore to the north of the present docks, which are constructed as curved frontage on the bay without slips or piers. It is planned that the additional docks in the shape of piers shall consist at first of three great piers built at a distance of 340 meters, or 1,115 feet, from each other. When these docks are completed the entire system will afford a frontage of 19,000 meters (62,320 feet), or about 12 miles.

There is no doubt that the plans approved by the Government will be carried out provided the money can be secured. It is estimated that the addition planned will add 65,000,000 milreis, or about $19,500,000, to the cost of the entire work, the probabilities being that the cost will exceed that estimate. As a basis for the extension planned, the Government engineer making the plans calls attention to the fact that the original plan for the construction of 3,200 meters

of quay was upon the calculated need of an annual tonnage of 1,595,000, the average tonnage in the port of Rio de Janeiro for the three years previous to 1903.

RAPID INCREASE IN TONNAGE.

Since that time, however, the annual tonnage has increased immensely, the average from 1903 to 1905 being 2,007,630, and the average for the past three years still greater. It is calculated that at the present time 7,200 meters, or about 4⅔ miles, are required, and that at the present rate of increase 20,000 meters, or over 12 miles, will be required. Whether or not the official plans for the extension of the docks will be given effect in the near future is not certain. Work upon the present contract is yet to run a number of years, and it is probable that the present contract will cover immediate requirements. At the same time it is probable that the actual contract for the extension will be let under the present National Administration. The understanding is that the contractors for the present work will be given preference in the matter of the contract for the extension, other things being equal, but how far this preference will extend is not known.

The docks now being constructed in Rio de Janeiro are owned by the Federal Government of Brazil. The present Government has determined not to operate the docks by the Government itself, but to lease them to private parties who will manage and control them under Government auspices and Government regulations for a fixed rental to the Government. The proposed regulations and terms for this lease are now in course of preparation.

OCEAN FREIGHT RATES.

BRAZIL.

RENEWAL OF CONFERENCE COMBINATION OF SHIPPING LINES.

Consul-General George E. Anderson writes from Rio de Janerio that not only is the rebate or conference-line system to control in the matter of freight rates between the United States and Brazilian points during the ensuing year, but that apparently it is to control more completely than ever. Mr. Anderson continues:

As a result of a recent conference in Hamburg between representatives of the several lines concerned, the following notice, signed by the Royal Mail Steam Packet Company, the Hamburg South America Line, the Hamburg America Line, the Norddeutscher Lloyd, the Prince Line, and Lamport and Holt, has been issued:

Shippers of coffee at ———————— are hereby notified that, subject to the conditions hereinafter expressed, the undersigned lines will pay the following rebate of freight on coffee shipped by their respective steamers to the ports of Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States of America during the year beginning the 1st of September, 1908, and ending August 31, 1909, and thereafter year by year until further notice, viz:

Five per cent for shipments up to 100,000 bags, and one-quarter per cent more for every additional 10,000 bags up to a maximum of 10 per cent for 300,000 bags or over.

The rebate to be paid to each shipper will be computed every twelve months, say up to August 31, in each year, on his total shipments by the combined lines

and be payable six months afterwards, but only to shippers who have, up to such due date of payment, confined their shipments of coffee to Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States, to the undersigned lines.

No rebate will be paid on freight on sample lots, nor on additional freight charged for delivery at postterminal destinations of goods shipped on through or optional bills of lading.

A statement of rebate claim must be made on a form as annexed, and presented within three months succeeding the date on which payment falls due, to the agents of the company which has carried the merchandise in respect of which the rebate is claimed.

Until further notice any shipments by steamers of the National Brazilian Line, under the Brazilian flag, to the United States, and of the Koninklijke Hollandsche Lloyd to Amsterdam, at not under conference rates of freight and conditions, will not prejudice shippers' claims of rebate.

EFFECTS OF THE CONFERENCE.

The important portion of this notice, as representing a change from conditions which have obtained in the past, is contained in the last sentence, in which it is made permissible for shippers to grant some of their business to the subsidized Brazilian line if the business is handled upon precisely the same terms as the conference lines. This is taken as an offer or an invitation for the Brazilian line to join the conference, in effect at least, since without paying a rebate similar to the conference lines the Brazilian and Holland Lloyds can not expect to obtain business unless they cut rates offered by the conference lines. By accepting the conference rates and conditions and, inferentially, paying the same rebates they are put in a position where they can secure a portion of the business of shippers who otherwise would ship altogether by the conference lines to avoid being penalized for shipments by outside lines. Yet if the Brazilian and Holland Lloyds accept these rates and conditions they are in effect members of the conference.

A further point to be noted in the offer or invitation is in that it is limited to vessels sailing under the Brazilian flag, as far as the Brazilian Lloyd is concerned. This of course shuts out chartered steamers of other flags. Inasmuch as most of the business of the Lloyd Brazileiro in its American trade is in chartered vessels this offer is in effect an invitation to reduce the business of the line to such business as can be handled in Brazilian ships and come in the conference. Present indications are that there will be no material change in the general course of shipments by the respective lines by reason of any terms in the agreement just announced.

SAMOA.

REDUCTION ON FREIGHT RATES FROM SAN FRANCISCO.

Regarding the Australian Mail (Weir) Line and its freight rate from San Francisco to Apia, Samoa, Vice-Consul Charles E. Parkhouse writes from Apia as follows:

Advices have been received that the freight on general merchandise has been reduced to $11 per ton, and that the charge on lumber would be $10 per 1,000 feet, in both cases exclusive of cost of landing, say an additional $1.25. It is a satisfaction to state that the company has met the wishes of the Apia merchants in this respect.

INLAND WATERWAYS.

CANADA.

VALUE OF RIDEAU CANAL FOR DISTRIBUTION OF AMERICAN PRODUCTS.

Consul H. D. Van Sant reports that while the commercial importance of the Rideau canal and lakes, leading from Kingston to Ottawa, has largely diminished, its future possibilities and usefulness as a water highway should be noted, particularly as it keeps open a considerable field for the sale of American manufactures and products. The consul's descriptive features follow:

The canal for a distance of 126¼ miles is dotted with small villages and towns visited by large numbers of American fishermen and tourists in the summer and affording for eight months in the year a readily reached market for American coal and kerosene, farming implements, miners' tools and machinery, fishermen's supplies, canned goods, wagons and carriages, wire fencing, hardware, windmills, cheap cotton goods and fabrics, and other staple articles sold to the country trade.

The total income of the canal during the fiscal period of nine months beginning March 31, 1907, was $4,957. In freight 82,159 tons were carried, an increase of 22,295 tons, of which 31,430 tons were the product of the forest and 9,990 tons were coal. The passenger receipts are made up largely from Americans who visit these lakes and canals for sight-seeing and fishing and whose numbers seem to be yearly increasing.

CONSTRUCTION AND USE.

The Rideau canal was commenced in 1823 and completed in about seven years. Before this date engineers sent from England had reported the proposed canal impracticable, but afterwards the project was taken in charge by engineers of the British army stationed in Canada, and to the sapper and miners' corps, aided by the regular soldiers of the British army, belong the credit of final construction.

The canal has cost the Imperial and Canadian governments $4,085,889, and a conservative estimate places the present cost of such a system of locks, dams, and canal at from $20,000,000 to $25,000,000, exclusive of the cost of operation. The repairs to the canal in 1907 amounted to $55,634.

The canal has 35 ascending and 14 descending locks and 39 dams or abutments. One of them, at Jones Falls, is 90 feet in height and includes three sets of locks, while the one at Kingston Mills near Kingston is 60 feet high. The total lockage makes up 282¼ rise and 164 fall at high water. The locks are 134 by 33 feet with a depth in water of 5 feet. The canal breadth at bottom reaches 60 feet in earth and 54 feet in rock, while the breadth of canal at surface of water is 80 feet in earth and rock. The strength of the canal is shown in the fact that there has been no serious breakage in any of the larger locks or dams since its construction.

Before the Lachine and Cornwall canals were built the Rideau was the important commercial waterway between Montreal and Lake Ontario ports by way of the Ottawa River, and its traffic was large and profitable. It was the only route then opened for navigation with the Lakes trade from Montreal that avoided the ascent of the

Lachine and other rapids in the St. Lawrence River. Now a railroad connects Ottawa city with Brockville on the St. Lawrence, a shorter route, yet there still remain the markets along the Rideau, easier and cheaper to reach by water than by rail, and in the case of barges saving transshipments and winding, not only through Kingston, Smith Falls, and the Ottawa, but through the Perth Canal and inland through the adjacent country.

IMPROVEMENT OF RICHELIEU RIVER.

A PROJECT OF GREAT INTEREST TO AMERICAN BOATMEN.

Consul Charles Deal, in forwarding the following Canadian newspaper clipping referring to Dominion waterway improvements, says that St. Johns is the harbor for the Richelieu River and Chambly Canal. The average number of boats clearing for the season is 3,500, principally American vessels, therefore the improvement will be appreciated by American boatmen and shippers:

The Dominion government has plans under way for the improvement of navigation on the Richelieu River, between Lake Champlain and the town of St. Johns, which includes dredging, estimated to cost $90,000, and the construction of a stop-log dam 1,350 feet in length, to cost $110,000. The result will be to lower the crest of the rapids at St. Johns by about 5 feet, to raise the level of the water in the Chambly Canal, and incidentally to prevent the floods along the Richelieu River, which have long been annual occurrences. The department of public works at Ottawa is now calling for tenders for the dredging, which is to provide a channel 49 by 700 feet and to regulate the levels from St. Johns to Lake Champlain. This is exclusive of the works for the improvement of the harbor of St. Johns, which will include extensive new concrete wharves and breakwater and will probably cost at least $50,000 more.

COLOMBIA.

PROPOSED REMOVAL OF THE BAR AT MOUTH OF MAGDALENA.

In transmitting a pamphlet in English concerning the feasibility of the removal of the bar at the mouth of the Magdalena River, prepared by a well-known American engineer after a careful study of the subject, Consul Charles C. Eberhardt, of Barranquilla, reports as follows:

The removal of the bar at the mouth of the Magdalena would prove of inestimable value toward making Barranquilla one of the principal commercial centers of this part of the world when the proximity of this district to the Isthmus of Panama is taken into consideration.

Barranquilla and the Magdalena River bear almost identically the same proportional relation to Colombia, geographically and commercially, that New Orleans and the Mississippi bear to the shipping interests and territory of the Middle West, with the difference that the bar at the mouth of the Magdalena River still exists as a great hindrance and menace to the navigation and commerce of this district. Ocean-going vessels at present discharge and embark their cargo at the pier near Puerto Colombia, 18 miles distant from Barranquilla, shipments being conveyed the intervening distance by rail. This, while very expensive, results in rough usage of all shipments with its consequent increased breakage because of extra handling, which might be obviated were this bar removed and ocean and

river boats thus enabled to discharge and receive their cargo to and from one another directly.

HINDRANCES TO REMOVAL OF THE BAR.

That the plan for removing this bar is feasible and presents no problems of serious difficulty to engineers seems proved by the report of an American engineer [on file in the Bureau of Manufactures] rendered after some months of careful study of the existing conditions, assisted by a corps of capable assistants.

That the results of such improvements would be of the greatest importance to Colombia seems indisputable when it is remembered that the chief obstacle to the development of the natural resources of the Republic, recognized as being of enormous value, lies in the lack of satisfactory transportation facilities.

Several difficulties, however, present themselves which must be overcome before this improvement can be completed. Chief of these is the question of the necessary capital, estimated at $2,000,000 gold, which, though relatively a small amount when compared with the probable results to be attained, presents a serious problem to Colombia. Then, too, the Barranquilla railway interests, with the 4,000 feet of pier at Puerto Colombia, which would be almost a total loss as a result, and the other towns along the coast which enjoy shipping of some importance, may, of course, be expected to antagonize the movement. Among the local citizens there is a feeling that while the Government as a whole would benefit immeasurably by the improvement, the city of Barranquilla must bear the brunt of the expenses, for the conflicting interests already referred to and the general condition of the country at present render it extremely doubtful if any substantial Federal aid can be forthcoming in the near future, though it is said that an attempt is being made to induce the Government to raise the necessary capital by giving its guarantee for 7 per cent interest on the $2,000,000 to any company undertaking and fulfilling the contract. Whether this attempt will immediately result successfully or not, it seems that means must ultimately be devised whereby the necessary capital for improvements of such widespread importance to the Republic will be raised and the work carried through to its completion. While this may not be consummated at present, it seems likely that American firms interested in such work might be desirous of keeping in touch with the progress of the scheme.

MOTORS AND VEHICLES.

AUTOMOBILE MARKETS.

CHINA.

LIMITED USE OF MOTOR TRANSPORTATION IN SHANGHAI.

In furnishing the following report on the use of automobiles in Shanghai, Vice-Consul-General W. Roderick Dorsey says that that city has a Chinese population of 500,000, of whom many are persons of rank and wealth, and a foreign population of 15,000, a large portion of whom are well-to-do. He writes:

The first automobile made its appearance here in 1902, and was an American car. After six years there are but 140 cars in Shanghai, and only five of them are owned by natives. There are no statistics available as to the country of origin of these cars, but from observation and outside information the order of popularity seems to be French, British, American, and German. The cars owned by Chinese are either French or American. It will never become a great market for motors until the Chinese take more freely to this mode of locomotion, and getting them interested therein will be slow work, for if the native likes rapid locomotion he also has an inherent aversion to change, and in this case this aversion is aggravated by fear of accidents on the highways and the resulting expense.

THE MARKET AND HOW TO SECURE IT.

Although the demand for automobiles is not large at present the market should not be overlooked. Manufacturers of other countries consider it advisable to secure a footing, and if the makers of American cars will extend to their agents here the liberal terms granted by the Europeans, confine their transactions to their representatives, and give them a car to sell that meets as nearly as possible the needs of this community, there is no reason why a large share of the trade should not go to American manufacturers.

The greatest demand seems to be for medium-priced cars with gasoline engines. There are one or two steamers here, but no electric automobiles. The most practical car for this market would be a low-power machine—from 10 to 20 horsepower and 2 to 4 cylinders—with mechanism of the simplest order consistent with efficiency. Chauffeurs here are Chinese almost without exception, and the fewer parts there are to get out of order the better.

The best method to be pursued by firms who desire to enter this market is to select a local agent and deal through him with every prospective purchaser. Local dealers complain that one of the greatest obstacles to an increase of the automobile trade is the practice of manufacturers quoting to individuals the same terms and prices they quote to their regularly appointed agents, for which reason the sale of American cars is not pushed more vigorously in Shanghai. Dealers

feel that this is unfair and that if manufacturers desire to have their machines actively represented they should offer every inducement to local dealers to secure the business. If possible an American representative should be secured; if this can not be arranged then a firm of a noncompetitive nation. In a new field the wares of one country placed in the hands of an alien agent are apt to be held back to the advantage of similar products of his own country.

There are several dealers in automobiles in Shanghai, a list of whom is forwarded; of these two French firms have thoroughly equipped garages, where cars can be housed and all kinds of repairs effected. [List on file in the Bureau of Manufactures.]

A catalogue for motor cars in English would be the most practical, as nearly all foreigners interested in automobiles understand that language, and the Chinese who may purchase will do so through local agents familiar with it. Catalogues may be sent to this consulate-general to be placed in the files for reference by persons asking to see them.

CREDIT, EXCHANGE, AND TARIFF—LOCAL CONDITIONS.

The liberal system of credit granted by European shippers on other lines of goods is applied to the automobile industry, and some firms place cars on consignment at the start.

The standard of coin value here is the tael, but the money of circulation is the Mexican dollar. Both are subject to daily exchange fluctuations, so it is not possible to give a fixed equivalent. At the present rate the Shanghai tael is worth about 58 cents and the Mexican dollar 44 cents United States currency. There are no papers necessary in making shipments of automobiles for import here other than the usual commercial papers. Automobiles are subject to an import duty at the rate of 5 per cent ad valorem.

Local conditions are not conducive to a general demand for automobiles. The character of the streets in town is good, the surface being macadamized and kept in serviceable repair by the municipal councils of the international and French settlements. The principal thoroughfares are traversed by electric car lines, and during the rush hours of the day are filled with vehicular traffic of every description.

The roads beyond the boundaries of the settlements are also built by the municipalities and have usually dirt surfaces. The streets and roads are absolutely level, the only grades being artificial ones built as approaches to bridges. The entire province of Kiangsu, comprising 44,500 square miles, outside of the foreign settlements, can boast of no carriage road worthy of the name, only footpaths and narrow ways for wheelbarrow traffic. The longest run that can be made in Shanghai and its environs without doubling back is about 14 miles.

SPAIN.

AMERICAN AUTOMOBILES CAN BE SUCCESSFULLY INTRODUCED.

The following information concerning automobiles in Spain is furnished by Consul-General Frank D. Hill, of Barcelona:

Market conditions as well as the opinions of several dealers would indicate that American automobiles can be successfully introduced into this country. At present most countries are represented in this market, French makes being most popular, while German and

British cars are known and have been imported, but the majority of the automobiles now in use are of Spanish make, there being two motor factories, one at Barcelona and another at Vitoria, near Bilbao.

At the present time it is estimated that the number of automobiles in use throughout Spain is about 3,000, distributed as follows: Madrid and district, 500; Barcelona and district, 600; Guipuzcoa, including San Sebastian, 300; Vizcaya, including Bilbao, 200; Palma, Balearic Islands, 300; Seville and district, 100; all other places, 1,000.

CUSTOMS DUTIES AND MOTOR REGULATIONS.

American manufacturers desiring to enter the Spanish market would do well to take note of the following pertinent facts:

Customs duties on motor cars amount to 80 pesetas, gold ($15.45), per 100 kilos (220 pounds) on chassis weighing less than 1,000 kilos (1 metric ton); and 100 pesetas, gold ($19.30), per 100 kilos on cars weighing more than 1,000 kilos. If the car be complete, and have an open body, a further duty of 200 pesetas ($38.60) is assessed; if the car has a closed body the extra duty amounts to 320 pesetas ($61.76).

Speed limit in cities and towns, 7½ miles per hour; country roads, 17½ miles per hour. Greenwich time is used here, hours numbered 1 to 24.

There is a duty of 300 pesetas ($57.90) per 100 kilos on cycles, which is refunded at frontier when leaving on return of receipt.

A new privilege recently granted to automobiling in Spain is that cars imported temporarily for touring or other purposes may remain in the country one year without forfeiting the amount of the duties deposited thereon instead of only four months as heretofore.

On railways a saving of 40 per cent may be effected by purchasing distance or kilometric tickets.

STEAM COMMUNICATION, CREDITS, AND LANGUAGE.

There are two direct steamship lines connecting New York with Spanish ports. Both companies have monthly sailings, and if goods intended for Spain be shipped thereby in preference to embarking via European ports, much time can be saved; moreover, freights are more economical, and greater safety is insured, transshipment being avoided.

Particulars concerning papers required to accompany shipments to Spanish ports may be obtained from consular representatives of Spain in the United States.

As regards the credit system, European manufacturers grant long credits, say from three to six months.

Generally the language in use in commercial life in Spain is Spanish, though French, English, and German are understood in a good many instances. However, catalogues and price lists should be in the language of the country, and weights and measures in the metric system. Prices should be quoted in pesetas (at current exchange, 1 peseta equals about 17 cents).

Names and addresses of principal dealers in automobiles and supplies are forwarded. The majority of these firms own garages and have well equipped repair shops attached. [On file in the Bureau of Manufactures.]

NORWAY.

OUTLOOK FOR AN INCREASING USE OF AUTOMOBILES.

Consul B. M. Rasmusen, of Stavanger, furnishes the following information concerning the outlook for automobiles in his district and the kind of machines that will meet the local Norwegian conditions:

The use of automobiles in this consular district has been very limited up to the present time, but indications now point to greater activity in this line. The need of better and quicker transportation inland is recognized, and many of the barriers that have restricted the use of automobiles heretofore either have already been removed or will be shortly.

The public highways in Norway are very narrow, as a rule, and in a mountain district like this they are steep and contain many curves. The kind of machines that will be best adapted to this district must be of strong make and able to climb. It is probable that the most frequently traveled tourist routes will soon be operated by motor cars, and for that reason omnibus cars will be most in demand at first, but it is safe to calculate that when automobiles have become more general and all barriers to their operation removed many will be bought for private use also.

OMNIBUS-AUTOMOBILE ROUTES.

The plan that is being pursued at present is to organize an omnibus-automobile company, with permission to carry passengers and freight, according to a time schedule, over certain routes, the organizing being promoted by some one who either has an agency already or contemplates securing one, and who is thus assured of making a sale when arrangements have been completed.

There are two automobile routes, recently organized, operating between Stavanger and adjacent points. The machines used are of European manufacture and were purchased according to the plan described above.

From reliable sources it has been ascertained that several automobile routes are now under consideration in different parts of this district.

Firms contemplating entering this market would do well to have experienced representatives on the ground to study the wants and investigate the conditions pertaining to the trade. The field is new and the prize is likely to go to those who enter first with intention to win. [A map showing the proposed automobile routes in the Stavanger consular district is on file in the Bureau of Manufactures.]

GERMANY.

HOW AMERICAN MOTOR CARS CAN BE SOLD IN SILESIA.

Consul Herman L. Spahr, of Breslau, furnishes the following information concerning motor conditions in Silesia:

It will not be easy to sell American motor cars in this part of Germany, if reliance is placed on catalogues in English. Except in the case of firms in constant commercial intercourse with the United States, English is little understood and extremely unsatisfactory. French is preferable at present, if it is absolutely impossible to use

German, though English is gradually advancing. The best ways to introduce American motor cars are: (1) Be sure of the superiority of the car; (2) send a representative who speaks German fluently; (3) let him look over the field, select an active agent, representing no other car of the same quality, and remain with him until a foothold is secured; (4) arrange for the immediate repair and replacing of parts at many places in Germany and Austria-Hungary. The local dealer should not be expected to buy the cars outright; consignment for sale on commission ought to be practicable after bonding the agent and making him responsible for credit sales.

Breslau, a city of 490,000 people, has well-paved roads, good for motor vehicles, except in the old town, where the streets are too narrow. The population of Silesia is 4,942,611, embracing 33 cities whose populations run from 10,000 to 85,000. The country, networked as usual with excellent macadamized roads, is almost level, and a few hours' journey southward brings the traveler to the picturesque Riesengebirge (Giant Mountains) on the Austrian border, where mountain climbing of no inferior sort is available.

A list of dealers in Breslau, with the names of the makes they sell, is sent herewith. It is not to be expected, however, that a dealer will be strenuous in his advocacy of a foreign automobile when he has a German car that is easier to sell and brings a larger profit. Members of the Automobile Club here say that cheap cars are no longer sought; they realize the false economy of buying what soon has to be replaced with a better. Simplicity of construction and ease of manipulation are main requirements. It is also suggested that an uncomplicated runabout would meet with favor. [List of motor-car dealers in Breslau filed in the Bureau of Manufactures.]

ENGLAND.

MANUFACTURERS TURNING TO MOTOR-CYCLE MAKING.

Consul Albert Halstead, of Birmingham, reports, under date of July 16, that the season for the sale of automobiles and bicycles had about ended, with results that are disappointing to manufacturers, trade details following:

It is said that the season has been the most disappointing one in about seven years. This, it will be remembered, is the center of the automobile and bicycle manufacture for the United Kingdom. They are made elsewhere, of course, but the Birmingham area manufactures most of the British bicycles and a very large proportion, probably half, of the British-made automobiles. The wet summer of 1907 left manufacturers of bicycles and automobiles with large stocks. A number of firms, however, manufactured largely during the winter in expectation of a heavy trade this year, which did not develop.

Easter came with a large supply of both bicycles and automobiles and the weather against good sales. Then the general condition of business interfered with a large sale of motors, and in April and May most automobile manufacturers were compelled to largely reduce their working forces and some motor companies had to close their business. The motor-manufacturing capacity of the United Kingdom is greater than the present market, and the outlook therefore is not encouraging, though the motors manufactured in the United

Kingdom have improved steadily toward perfection. In the bicycle trade also it was necessary to reduce the number of men employed, but latterly the accumulated stocks have been largely disposed of.

It is stated that the sale of bicycles this year is about two-thirds of that of the year previous. The trade is not in an altogether satisfactory condition, and one new development is that the manufacturers of bicycles are opening their own retail shops. The style of business on easy payments continues, though it has not altogether met with satisfaction because of dishonest purchasers.

Though the automobile and bicycle trades have not been satisfactory this year, it is stated that in the manufacture of motor cycles business has been good, there being a growing demand for them. In fact, several firms are about to undertake the manufacture of motor cycles because they believe the future for them is very promising.

CYCLING IN SCOTLAND.

DISCONTINUANCE OF THE SCOTTISH CYCLE MEETS.

In the following report Consul Maxwell Blake, of Dunfermline, shows that while the bicycle is being abandoned for sporting and pleasure purposes in Scotland it is being taken up by the people for utilitarian purposes:

The rapidly diminishing membership of Scottish cycling associations, which has been especially marked during the last five years or so, is significant of the decline of cycling as a sport in Scotland; and the recently uncommented upon and almost unobserved announcement by the association of the discontinuance of the Scottish cycling meets (events which have been held annually for over thirty years in Scotland), seems to intimate an official despair of its revival.

There is no doubt that the legal prohibition of road racing in Scotland, enacted several years ago, has greatly helped to depopularize the sport, especially as there is but one artificially constructed hard-surface track in Scotland where racing events can now be held. In reality, little opportunity has since remained for its encouragement or recruitment, as competition is always a vital element in the life of any sport.

MOTORING THE FASHION—NO DECLINE IN BICYCLE MANUFACTURE.

One of many contributory causes that have operated to prejudice the former vogue of the bicycle is the dust nuisance arising from motor-car traffic, which renders bicycling as a pastime equally hazardous and unpleasant. Still another reason for the decadence of cycling is the fact that it has been deserted very largely by the well-to-do and so-called fashionable classes, whose use of the motor car has now almost completely supplanted the bicycle. Quondam enthusiasts as well have deflected from the ranks of the cyclist out of a preference for the motor cycle, which is obviously better adapted to the exhilarations of the "scorcher."

It must not be concluded from the above, however, that cycling in Scotland is a thing of the past. On the contrary, paradoxical as it may appear, there has been little, if any, decline in the output or sale of bicycles as compared with ten years ago. There are no official

statistics available from which the actual production of cycles in this country can be accurately ascertained for purposes of comparison, but the manufacturers obviously continue as formerly to find a market for hundreds of thousands of machines every year.

During the year ended March 31, 1908, 30,000 bicycles were exported from Great Britain to Japan alone, representing a gross value of more than $750,000, and during this time an additional $250,000 of parts were also exported to that country.

Bicycles were never cheaper or better than they are to-day, and while cycling may no longer be a fad or a sport, or even a pastime, it it an indispensable convenience, and has evolved itself into a vehicle of commerce, fulfilling the most varied and utilitarian purposes.

The roads of this country are uniformly of a hard and clean surface, and consequently the rural and laboring populations are resorting more and more to the bicycle, as the substantial lowering of its price, as compared with a few years ago, has put it within the purchasing reach of these classes.

In this district cycling is especially popular with miners, plowmen, the shopkeeping classes, and almost every school boy and girl cycles to and from school.

While it may be true that the margin of profit to both maker and retailing agent is somewhat smaller than when bicycles sold at from $75 to $125, with the standardization of the industry, the cost of production to the former has been diminished, while agents can now compensatingly look forward with more security to a continuance of sales.

OPENING FOR AMERICAN CYCLES.

It is inconceivable that American manufacturing exporters of bicycles should have shown such indifference to the possibilities of this open and dependable market. Racing bicycles of American origin were once popular in Great Britain, and there does not appear to be any reason why bicycles under the somewhat altered requirements of the present trade can not be satisfactorily introduced again in this country.

One of the peculiarities of the Scottish purchaser is the idea that lightness of structure, always a feature with American bicycles, is incompatible with strength and durability. The wooden rims and the flush joints of American bicycles also suggest to his practical mind easily broken frames, etc., with all their possible difficulties of repair. He further objects to single-tube tires and our different cranking adjustments. These objections, however, are less inherent than cultivated. The average Scottish cycling mechanic often refuses repairs out of the line to which he has been an apprentice, and there is no doubt that this has discouraged the purchase of American bicycles. The only way to obviate this difficulty is for American bicycle manufacturers to secure independent agents, exclusively handling the American bicycle and well equipped to undertake all repair work especially.

The average price of the British cycle now selling is from $27 to $30; the better grades from $40 to $50. Lightness of weight is no advantage of sale. The requirements of the Scottish trade are durability, comfort, and ease of propulsion.

BENZINE AND OIL MOTORS.

APPLIED TO NORTH SEA FISHING BOATS—EXHIBITION IN NORWAY.

Special Agent Roland R. Dennis, in the following report, describes motors used by Scandinavian fishermen in propelling their boats:

The introduction of comparatively cheap, reliable benzine and oil motors in the northwestern European market has developed a business in these very useful engines that has surprised no one more than their builders. No better example of the possibilities of educating the public up to the use of labor and time saving novelties can be found than that of the almost universal installation of motors in the thousands of fishing and sealing boats putting out from the extended coast line of the three Scandinavian countries, Denmark, Norway, and Sweden. Anyone having the temerity to suggest, fifteen or twenty years ago, that fishing boats would eventually all be built with some means of mechanical propulsion would have been considered a fit subject for an insane asylum. This revolution has, however, taken place, and the Scandinavian manufacturers, more especially the Danes and Swedes, have not been slow to take advantage of the splendid opportunity offered them.

In a trip up the Norwegian coast, of the many hundred fishing boats met and passed not one was without its "puff, puff," while at the wharf in Aalsund, not less than 50 boats, varying from small cat-rigged to good-sized cabin sloops, passed in or out of the harbor each with a motor of some class. Owing to the higher price charged for benzine, the oil motors are much in the majority, notwithstanding the length of time consumed and the extra labor necessary to get them started. The marine insurance is also somewhat lower for those using oil motors.

EXHIBITION OF FISHING ACCESSORIES.

At Tronthjem, I attended an exhibition of fisheries and accessories. While not a large affair it was a most creditable one for such a small community, and afforded an opportunity of seeing a considerable number of the best benzine and oil motors now being placed on the Scandinavian market. The ruling price for benzine in Norway I found to be 32 ore per liter (45 cents per gallon), and for petroleum 15 ore per liter (25 cents per gallon), in small lots and 12 ore per liter (20 cents per gallon) by the barrel. Of the benzine motors the Thor, made in Christiania, seemed to me the best, and it certainly had some very strong testimonials. A lieutenant in the navy stated that his 25-foot launch fitted with a 3½-horsepower motor had made 7½ knots (8.625 miles) per hour on a consumption of 0.41 gallon of benzine. A fishing boat, 47 feet long, 16 feet beam, and drawing 7½ feet of water, fitted with a 20-horsepower Thor motor, double cylinder, on a three days' run from Tromsoe to Tronthjem, had averaged 6 knots (6.9 miles) per hour on a consumption of 2.04 gallons of benzine.

NEW PETROLEUM MACHINE.

Of the petroleum motors the most attractive was Rundolph's patent, manufactured by that well-known engineering firm of J. & C. G. Bolinder, of Stockholm. The design of their motors showed experience and good taste. The castings were well made and there was a "business" look about the whole exhibit. In this connection I should ıte that the great criticism I hear regarding the motors sent from

the United States is that they are not good enough. They are "cheap" looking, and not sufficiently well built nor finished to meet the views of purchasers in Europe. The Bolinders claim that their motor, being a two-cycle construction, an explosion takes place every revolution. The oil is directly injected into the ignition globe, the gas formation taking place quickly and positively with the slightest possible soot formation. The motors are fitted with a governor which automatically regulates the supply of oil and which, being supplied with a simple attachment, controls the speed of the motor. The larger stationaries for launch and fishing-boat service are built with a reversing device controlled by a rolling eccentric which, it is claimed, controls the motor as perfectly as the reversing lever of a steam engine.

STATIONARY AND PORTABLE MOTORS.

The stationary motors are built in all sizes from 3 to 30 horsepower, and the portables from 5 to 20 horsepower. The following table gives sizes, weight, and prices of stationary motors:

Horsepower.	Shaft revolutions.	Diameter.	Face.	Belt.	Weight.	Price.
		Inches.	*Inches.*	*Inches.*	*Pounds.*	*Dollars.*
3	450	12	6½	3	770	300
5	400	13¾	7½	3½	1,440	379
7	400	15¾	10½	5	1,920	461
9	375	15¾	10½	5	2,400	576
12	350	20	12½	6	2,880	691
15	325	23½	14½	7	4,000	960
20	300	27½	16	8	5,750	1,380
30	250	31½	18	9	8,800	2,112

Following are sizes, weights, and prices of portable motors:

Horsepower.	Shaft revolutions.	Diameter.	Face.	Belt.	Weight.	Price.
		Inches.	*Inches.*	*Inches.*	*Pounds.*	*Dollars.*
5	400	20	7½	3½	2,200	540
7	400	20	10½	5	2,860	686
9	375	21½	10½	5	3,520	845
12	350	23½	12½	6	4,400	1,056
15	325	27½	14½	7	6,170	1,480
20	300	31½	16	8	7,490	1,798

Packing 1 per cent of the cost of the motor.

The portable is strongly mounted on four all-steel wheels. It is compact and a serviceable, well-built engine, and I am confident it is quite worth the while of American builders to copy it. They claim to guarantee these portables to give full rated horsepower, running on a brake, on a consumption of one-third liter of oil per horsepower per hour, making a 9-horsepower motor use only two-thirds gallon of oil per hour.

Karl Petersen, of Copenhagen, exhibited a well-proportioned 9-horsepower stationary oil motor, which had been awarded a special extra prize by the judges of the exhibition as "the best petroleum motor for fishing boats." The exhibitor was quite ready to guarantee the motor for four years, and to demonstrate its ability to run on a consumption of four-tenths of a liter of oil per horsepower per hour. His prices were virtually the same as shown in the table given above.

[Illustration of a 9-horsepower portable oil engine accompanies the report.]

SMYRNA CAB SYSTEM.

RATES AND EXTENT OF THE PUBLIC-CONVEYANCE SERVICE.

In reporting that in the cab system of Smyrna, the commercial metropolis of Asia Minor, there are 335 carriages and about 700 carts, Consul-General Ernest L. Harris covers their operations:

The number stated includes those used in the suburban villages. The taximeter has not as yet been introduced into the city. There is no Government regulation of fares, neither is the organization or administration of the business in any way controlled or interfered with by the municipal authorities. As a result of this arrangement the cabmen are free to ask whatever price they choose. The sum of $1.75 tax is collected by the authorities from each carriage every month.

The horses used in the cab system of Smyrna are brought from the interior of the country, more especially from the districts of Aidin and Cassaba, while a few are brought from Magnesia, but the race at the latter place does not enjoy a good reputation for endurance. The cost of maintaining a horse in Smyrna is about 35 cents per day. The price of horses averages from $50 to $90.

On the whole, the cab business of Smyrna can not be said to be a paying one. The usual fares asked are 20 cents for the trip, 50 cents for the hour, $2. for an afternoon drive, and about $3 per day. The bad condition of the streets and country roads is a great drawback to the business. The fear of damage to both horses and carriage keeps many cabmen from accepting fares to many quarters of the city. Such is also the case with journeys to some of the more distant villages, the condition of the country roads rendering it impracticable for cabmen to venture upon them unless the prospect of extra fares induces them to undertake it.

FOODSTUFFS.

AMERICAN CANNED GOODS.

ENGLAND.

ANALYSES OF BRITISH AND AMERICAN CANNED AND GLASSED MEATS.

The medical department of the local government board in Scotland has issued a report covering analyses, made by an official inspector, of British and American meat foods, packed in tins and glass, from which Consul Maxwell Blake, of Dunfermline, has taken the following statistics:

The inquiry was occasioned by the results of an indiscriminate analysis, about a year ago, of the contents of 1,733 hermetically sealed tins and glasses, of which over 19 per cent were found to contain large quantities of chemical preservatives, such as boron compounds and sulphites. The conclusion was thus accepted that, aside from the danger to the health of the general public arising from the consumption of these preservatives, there was some occasion for suspicion of the quality of the foods themselves, from the fact that preservatives in foods hermetically sealed, a process which is alone sufficient for all purposes of sterilization, may not unlikely have been introduced to forestall an organic change prior to the canning of the foods.

RESULT OF THE ANALYSES.

The bulk of the articles selected for the analyses upon which the present official report is based were of British and American origin, as it appeared impossible to secure the products of Canada, Australia, or New Zealand, from the fact that articles proceeding from these sources on arrival in Great Britain are usually relabeled and often "transpotted," and no intimation of the origin of the contents given to the purchaser.

Proceeding to a review of the report, it is observed that of the 352 samples of British origin submitted to chemical analysis, 156 were found to contain boron compounds and 12 preservative sulphites. Of boric acid the amount discovered in 11 of the British samples varied from 20 to 30 grains per pound, in 15 from 30 to 40 grains, and in 5 from 40 to 50 grains per pound. Nine samples contained the following quantities: 55, 56, 71.5, 74.2, 91, 110, 114, 145.7, and 163.6 grains per pound, respectively. Thus it will be seen that more than 40 per cent of all the samples of British origin examined were found to contain boron compounds and sulphites in varying quantities. While only 352 British samples were analyzed, 575 samples of American origin were submitted to the same tests, or 223 more than the number of British containers reported upon. Of these 575 American samples analyzed, 47 were found to contain boron compounds and 37 pre-

servative sulphites, in quantities varying from only "traces" to not more than 5 to 6 grains per pound. Thus, while only 15 per cent of all American samples were found to contain any preservatives whatsoever, where their use had been discovered, it was in surprisingly smaller amounts than in the British samples.

CLAIMS OF BRITISH MANUFACTURERS REFUTED.

When some of the British manufacturers were confronted with the foregoing facts, without attempting to contradict the justice of the findings they contended that while preservatives may have been chemically discernible in their products in quantities as indicated by the report, they disclaimed responsibility on the grounds that as many of the hams and gammons used by them for canning purposes were really of American origin and as it is the custom of some manufacturing exporters to powder these articles with borax to prevent taint during transit, that they thus absorbed such quantities of that antiseptic during delivery as to account for its subsequent presence in the manufactured foods.

The official report, however, in an addendum deals comprehensively with this very subject and offers official contradiction there by stating that, while it undoubtedly is the practice of some shippers of American hams and gammons to sprinkle with boric acid, such articles can not possibly absorb to exceed 8 or 10 grains per pound in this way, and as American hams and bacon form only a minor percentage of the raw foods made up into manufactured meats and sold in containers under British labels, this disclaimer will be seen to be at irreconcilable variance with the evidence of the report.

ENGLISH USE BORAX AND BISULPHITE.

On the other hand, as regards hams and bacon of British origin, a large amount of which are converted into prepared foods, no information whatsoever is procurable as to the extent to which preservatives are used in their cure, "although," in the language of the report, "repeated reference to the existence of this practice among manufacturers in the United Kingdom is to be found in the minutes of evidence accompanying this report."

Quoting further from this report, it is stated by the importer that "one well-known English maker of canned and glass packed meats informed me that he used only English and Irish hams and bacon of the best brands, and notwithstanding statements by the curers who supplied them that boric acid was not used in their preparation, a large percentage of these materials were found on analysis to contain boric preservatives."

The report further officially declares the existence of several bisulphite works, the products of which are disposed of to packers and butchers as a restorative of meat not "over fresh." It is needless to say that these various antiseptics are often sold under attractive names, and not infrequently accompanied by the guaranty that if used in accordance with directions they will entail no legal liabilities.

It is very much to be hoped that the results of the thorough and impartial examination as reviewed will go a long way toward discrediting the rumors persistently circulated in this country and elsewhere by competitors against the purity of American meats.

CAPE COLONY.

GOODS EXCEL IN QUALITY, BUT LABELS LACK ATTRACTIVENESS.

Vice-Consul Charles J. Wright, of Port Elizabeth, in his report on the canned-goods market in Cape Colony, calls attention to the opening for certain classes of canned fruits. He says:

In 1906 the United States sold slightly more than one-fifth of all the canned goods used in Cape Colony and stood first in amount from any one country. In 1907, although the imports from the United States had decreased about 38 per cent, the first place was still held and the American share increased to a little more than one-fourth. The imports from all sources for 1907 show a decrease from 1906 of about 43 per cent. The only country showing a gain is Italy, and this is slight.

American canned goods compare favorably in price with those from other countries, and the only complaint regarding them is that in some cases unattractive labels, often poorly attached, do not make a good display. Peaches and pears seem to be the popular lines in fruit, although there should be a good market for cherries and berries if properly pushed, as scarcely any of these are grown in this country. Tomatoes, sugar corn, baked beans, and tomato soup are also leaders.

The following table gives the imports, by country of origin, for 1906 and 1907:

Countries.	Fruits.		Vegetables.		Countries.	Fruits.		Vegetables.	
	1906.	1907.	1906.	1907.		1906.	1907.	1906.	1907.
United States	$27,384	$16,940	$14,191	$8,589	Victoria	$7,747	$3,231	$112	$34
United Kingdom	21,880	15,047	19,125	3,684	Netherlands	268	.....	6,487	4,390
Belgium	219	.....	29,798	10,643	All other	6,011	5,306	4,411	3,358
France	8,550	5,081	16,619	8,473					
Germany	2,175	900	11,879	5,295	Total	74,292	46,559	113,265	55,897
Italy	58	54	10,643	11,431					

The duty on canned goods is 4½ cents per pound, with a rebate of one-half cent per pound on goods from the United Kingdom.

[A list of possible dealers in American canned goods at Port Elizabeth is on file at the Bureau of Manufactures.]

JAPAN.

PACKING TO SECURE BEST POSSIBLE TARIFF RATES IS ESSENTIAL.

Consul George H. Scidmore, of Nagasaki, reports that the canned-goods trade at that Japanese port is slack on account of changed conditions of several years ago, and that American exporters need traveling salesmen and energetic local firms for agents. His report follows:

The market for canned goods is at present in a depressed state. In former years, owing to the frequent visits of naval vessels, especially those of Russia, sales were brisk and good prices were realized. As an outcome of the late war and of the establishment of naval rendezvous by the Americans at Manila, by the Germans at Tsingtau, and the British at Weihaiwei, very few men-of-war now call here. The extensive transshipment trade with Siberia and Manchuria, that

in previous years was of considerable value, has nearly disappeared, owing to changed conditions in those countries, to heavy charges here for storage in bonded warehouses, and the recent increase in the rates of the Japanese import tariff.

These conditions have affected importations from all countries. As to American products, I regret to report that there are other reasons for a falling off in this market. Many American tins of meat and other articles, such as hams, cheese, and butter, are received here under their invoice weights—that is to say, the coverings and receptacles are charged for as if a part of the contents. For example, I have been shown a can of American food product that weighed exactly 1 pound including the can, and compared it with a can of like article from Australia that weighed over 1 pound, the overweight consisting of the tin and solder. I have been shown an American ham which weighed 7 pounds, but with packing it weighed 9 pounds. The importer was compelled to pay charges and duty on 9 pounds, but his customers would pay him for only 7 pounds. The reputation of American tinned goods, which suffered in this market as a consequence of the packing-house disclosures several years ago, is improving, but has not yet been fully restored.

COMPETITORS—HOW TO MEET THEM.

England is the strongest competitor of the United States in this market and has gained this position within the past three years. I am informed that this is due to several causes, the principal of which are advantageous freight rates via Suez, close figuring of prices, excellent quality, superior packing, and good outward appearance.

To improve the American market here I am advised that the following remedies are essential: Lower prices; full weights in all cases; better and neater packing; lower freights from eastern United States points; lower import duties; and commercial travelers to work up the market and appoint responsible agents from among old-established foreign houses here. The general opinion here is that catalogues and circulars are of little value in pushing trade, especially when not translated into the Japanese language.

BRITISH FOOD SUPPLIES.

MANUFACTURED PRODUCTS EXCHANGED FOR FOODSTUFFS.

Consul Albert Halstead, of Birmingham, forwards the following abstract of a report prepared by a British tariff commission, showing that the United Kingdom is continually increasing imports of comestibles from her colonial possessions:

The British tariff commission, a body which has not the sanction of the British Government but which is of a private character, supported by those who favor the imposition of slight duties on imports into the United Kingdom, has prepared a report on colonial preference and imperial reciprocity that refers interestingly to the growth of agriculture in the self-governing colonies of the United Kingdom. It appears from that report that the development of food production in the colonies and India has resulted in a large increase of importations of food products from those sources into the United Kingdom. Comparing the five years of 1892–1896 with the five years of 1902–

1906 the average annual importation of wheat and flour from the British possessions has increased from 27,500,000 bushels to 67,750,000 bushels, while the imports into the United Kingdom from foreign countries have fallen from 157,000,000 bushels to 145,000,000 bushels. It is stated also that at present practically all the colonial and Indian exports of wheat come to the United Kingdom.

MEATS AND DAIRY PRODUCTS—EXPORTS TO COLONIES.

The meat imports from British possessions in the periods under consideration have grown from 154,450 tons (ton = 2,240 pounds) to 252,480 tons, an increase of 63 per cent, while the foreign meat imports have increased by 243,600 tons, or 42 per cent. Butter imports from the possessions in the same periods have increased from an annual average of 13,400 tons to 42,500 tons, or 217 per cent, while butter of foreign production has increased by 49,000 tons, or 42 per cent. Imports of cheese from the British possessions averaged 58,800 tons in the first period and 96,400 tons per annum in the second period, an increase of 64 per cent, while cheese imports from foreign countries in the same period fell off by 3,168,400 tons, or 36 per cent per annum.

In the five years of 1892–1896 British exports to the three colonies of Canada, New Zealand, and Australia averaged $115,579,375, and for the similar period ten years later the average had increased to $175,194,000, or more than 50 per cent. It is also noticed that for 1907, which it must be said was a record year in the total of British exports, the exports to the three colonies mentioned were almost $243,325,000. It is noted that the trade with the three colonies increased in twenty years by $55,478,100, or 38 per cent, while the foreign trade with these colonies increased by $184,927,000, or 181 per cent, so that in 1886 the British share of the colonial market was nearly 50 per cent larger than that of the foreigners, whereas in 1906 it had become 30 per cent smaller.

AMERICAN APPLE MARKETS.

UNITED KINGDOM.

MANCHESTER AS A MARKET FOR AMERICAN APPLES.

Vice-Consul John W. Thomas, of Manchester, calls the attention of growers and exporters of American apples to the opportunities of that British market:

It can not be too widely known that within a given area this district is the most thickly populated in the United Kingdom and that this population on the average spends much more money on foreign produce of all kinds than any other community in Great Britain.

Spanish fruit shippers are well aware of these facts, and the importation of fruit from Spain into Manchester has been almost doubled within the past few years.

Last season 72,500 barrels of apples were imported direct from the United States and Canada to this port. The local demand here is sufficient to absorb three times this quantity, while the large inland manufacturing towns would also take a good proportion, if the fruit came direct to Manchester.

One of the largest importers of apples in this city recommends growers who may contemplate shipping to Manchester to put up

their fruit in standard-sized barrels, and to bear in mind that apples for export must be pressed quite tight to insure safe carriage.

It is also essential that the fruit be properly graded and that nothing lower than good No. 2 quality be shipped, as common and inferior fruit is not wanted and will not pay to ship at any time. Good, clean, large-sized apples, and especially red varieties, are always certain to sell well in this market.

FREIGHT RATES—GOOD DEMAND FOR APPLES.

The ocean freights to Manchester from the following ports during last season were as follows: New York, 2s. (48 cents) per barrel, and Boston, 2s. 1½d. (51 cents) per barrel. The rates for the season 1908–9 have not yet been fixed. There are regular sailings from New York and Boston to this port throughout the year.

At the present time (August 27) English markets are fairly well supplied with home-grown apples, but there is no doubt that beginning with the middle of September this country will require large quantities from the United States.

It is anticipated that shipments across the Atlantic will be fairly large early in the season this time, as, in view of the heavy losses suffered on stored apples last year, growers and dealers will prefer to realize promptly this winter, and more especially as the Western and Middle States will now have plenty of apples.

High prices, therefore, can not be expected for some time to come, but I am assured that there will be a good, steady demand for best and medium qualities of apples on this side, and as prices in producing districts seem likely to rule low it should pay to export to this country, and Manchester in particular.

Certain large fruit brokers and importers in this city [names on file at Bureau of Manufactures] conduct public auction sales in the season several days each week. The results obtained in this market in the past have been very satisfactory when compared with those obtained elsewhere, and during the coming season more growers and shippers of American apples should avail themselves of the advantages the port of Manchester offers for the disposal of their fruit.

PLYMOUTH.

A LARGER MARKET AWAITING ADVERTISED FRUITS.

Writing from Plymouth, Consul Joseph G. Stephens says that English retailers of fruit have recently taken to advertising their products, with the result that the demand and sales have largely increased. The consul adds the following:

This fact is especially true of the Westcountry Blenheim orange pippin, of which from 15,000 to 20,000 packages are sold in the large cities during the winter season at fancy prices. In this connection the French shippers have made a good reputation for their Lady apple, but as yet no effort has been put forth to advertise in the same manner the fruit of the United States. If the packing, distribution, and advertising of American apples were conducted on right lines the present market could easily be doubled. The sale of apples from the United States averages from about 8,000 to 10,000 barrels per season in the two counties of Devon and Cornwall alone. It has been suggested by a local writer that apples should be specially packed in attractive packages; in bushel, half-bushel, and quarter-bushel boxes,

each made up of uniform sized fruit. The finest fruit should be packed in uniform sized one-layer boxes. This style would preserve the fruit from injury and at the same time assist in creating a demand at higher figures.

A list of local importers and wholesale fruit merchants, together with best routes of shipment, terms of payment, etc., will be furnished interested exporters on application.

IMPORTS OF HULL.

APPLE BOX IS NOW THE POPULAR CARRIER.

Consul Walter C. Hamm, of Hull, supplies the following information on the American apple shipments to that British port:

The direct importation of apples from the United States is again on the upgrade. In 1906 there were 38,041 packages received, but in 1907 the figure was 47,832 packages, of which no fewer than 18,809 were received in December. This only represents a small proportion of the apples dealt with by the Hull merchants. Big consignments were received by rail from Liverpool.

Apple shippers in most importing centers are interested in the growing popularity of the bushel box for the distribution of apples in the British markets. Last year the Canadian exporters dispatched large parcels of fruit in 40-pound boxes. The opposition to the handy box is giving way, for the fruiterers especially have shown a distinct preference for it against the cumbersome 3-bushel barrel. Thousands of boxes of Canadian Greenings and Baldwins are disposed of. Next season the apple-box business will be increased fivefold at least. One of the Canadian exporters interested in the new package states that the time is not far distant when 50 per cent of the Canadian apples shipped to the United Kingdom will arive in 40-pound boxes. Hull buyers speak highly of the apple box, and the increasing demand and prices prove that it will be used on a more extensive scale in coming seasons. The Tasmanian, Australian, and Canadian apple exporters highly favor the bushel box.

CARDIFF.

SUPPLY OF THE FRUIT FROM VARIOUS SOURCES.

In stating that the Welsh are great apple eaters, Consul Lorin A. Lathrop writes from Cardiff as follows in regard to their purchases of this fruit:

The market is supplied during the late summer months by English growths, which will have disappeared before Christmas, with the exception of the Russet. Canadian apples then follow on in large quantities, shipped direct from Montreal to Cardiff in barrels of 120 pounds. The Baldwin is the favorite, and these in barrels sell at 15s. to 25s. ($3.65 to $6.08), according to market and quality, delivered at Cardiff. Sales are by auction on arrival. The price of the barrels is included, and these are subsequently sold at a nominal price either to English farmers or to be broken up as firewood.

There are each season a certain number of complaints that the quality and size of the fruit is not uniform throughout the barrel.

A limited number of Newtown Pippins from the Pacific coast reach this market in the late autumn. They are sold as a dessert apple at advanced prices. They never bring under 8 cents a pound, that being the top price for Baldwins. After Christmas they gen-

erally bring from 10 to 12 cents. They and the Canadian apples have a clear field until the end of March, when the Australian and Tasmanian appear.

It is reported that there is a considerable shortage this year in the English apple crop, and it is generally believed in the trade that opportunities for American apples will be more than usually favorable. California is reported to have a very heavy crop, and apples from there and Oregon are expected to bring lower prices. Should this prove to be the case, these apples would meet the Baldwins in price and a greatly increased business ought to follow.

The consumers in this district are well-paid coal miners who, however, can not be expected to pay extra prices for superior fruit.

It is possible that direct shipments to Cardiff may be arranged, though the great difficulty in inaugurating business of this kind with perishable goods is to be found in the lack of that mutual confidence which is established only by continued relations. [The names of wholesale fruit dealers at Cardiff are on the files of the Bureau of Manufactures.]

GERMANY.

POINTS TO OBSERVE IN HANDLING THE TRADE SUCCESSFULLY.

In writing that the American apple generally stands well in the estimation of the fruit-consuming population in Germany, Consul H. J. Dunlap, at Cologne, gives some important particulars of this trade:

One hears in conversing with dealers many criticisms upon the manner of packing, sorting, and handling of American apples, much of the criticism being undoubtedly true and easily avoided by the American apple grower and shipper. The general complaint is that the fruit is unevenly assorted and either too closely or too loosely pressed. The result is the same in both cases, the fruit being bruised and as soon as exposed to the air showing the bruised places and destroying the selling quality.

The blame for this condition lies with the man who does the packing, for he has it within his control to see that no inferior fruit goes into the barrels and that the heads are not unduly crowded. Many retailers have called my attention to the poor quality of the fruit in the middle of the barrel, and I have heard the statement many times that it was not worth while to buy American apples and expect to get what one paid for. Unless a reform is effected in sorting and packing it will not be long before there will be no market at all in Germany for American apples.

SELECTION AND PACKING.

There is a temptation on the part of growers who pack their own crop to put into the barrel fruit of inferior quality, such as a wormy apple, if the outside appears smooth and of good color. Often a tree is found on which the apples are smaller than the average, though good in quality. Instead of making another grade of and packing them separately, part of the barrel is filled with them, in hopes that if the difference is noticed the good quality will make up for the fault and nothing will be said. This market, like most others, is largely overned by the eye, and good color, smooth skin, unblemished exterior, and good size are attractive to the average buyer. He cares

not so much for quality, so that the eye is pleased, for he is not the consumer. It may also be said that the poorer quality of such American apples as Ben Davis, Baldwin, and Twenty Ounce are better than the home grown, so that the consumer, unless he be used to a higher grade of quality, does not find fault.

I am frequently asked by American fruit growers to send them a list of the names of wholesale dealers in fruits, but such a list would be of little value.

SUGGESTED SALES METHOD.

The American apple trade as now conducted is mostly in the hands of middlemen in Hamburg or some other seaport, where the interior dealers go for their supply. The services of the middleman could easily be dispensed with and a large profit saved if a number of growers or sellers would combine and send a trustworthy man who can speak German to this side to take charge of their sales. He would of necessity rent a storeroom or place his fruit in cold storage and then begin a campaign for his customers. These could be reached by canvassing in the interior towns or by circulars stating that the stock was on hand and open to inspection. Then, if sales were made for cash on delivery there would be fewer claims for damages and consequent losses. As a rule, apples packed in boxes bring the highest price, but as they are generally rolled in paper the duty is much higher. The duty on apples in bags is nothing, but it is impracticable to ship from American ports in that way. On apples without paper covering the duty is 76 cents per 100 kilos (about 220 pounds), and on apples covered with one or more thicknesses of paper, $1.19 per 100 kilos. From this, prospective shippers to Germany can determine whether it will pay to make shipments here.

In this district there are no fruit commission houses as exist in the United States, but no doubt with proper conditions men might be found who would undertake to sell on commission, if the seller were willing to run the risk.

CROPS AND SUPPLIES.

The local supply will in a great measure regulate the prices paid for the American product. Just now the prospects for a fair yield of apples in Germany is good, but there will not be sufficient to supply the demand in any event. At the present time there is an abundance of the 1908 crop on the market from Australia, selling at 8 to 15 cents per pound. How long this supply may last is uncertain, possibly not much longer unless the Australian fruit shippers have good cold-storage facilities for keeping the crop until later in the season.

This consulate is at all times ready to give information as to dealers, prices, and conditions under which contracts should be made. A list is forwarded of wholesale fruit dealers in Cologne. [List filed with Bureau of Manufactures.]

[The shipments of American apples to Germany during the past five fiscal years have been in value as follows:

	1903.	1904.	1905.	1906.	1907.	1908.
Fresh	$440,260	$888,231	$401,322	$506,492	$569,269	$392,686
Dried	941,989	1,236,566	1,055,976	977,798	1,381,903	1,043,929

—B. of M.]

NORWAY.

SHORTAGE OF CROP WILL CAUSE LARGER IMPORTATIONS.

In reporting that an opportunity is now afforded to American exporters for the sale of apples at Bergen and other towns on the west coast of Norway Consul Felix S. S. Johnson writes:

The very warm weather which has been experienced this summer in western Norway has not been without a few drawbacks in some districts. In Sogn especially, a district from which a great supply of fruit, such as apples and pears, comes, the yield will be smaller than usual on account of the ravages of insects which attacked the crops. So severe has this been that an official from the agricultural department was specially sent to investigate the damage done. In a communication to a newspaper this official remarks: "It is quite terrible the way in which the apple trees in this district have suffered; most of the orchards look quite deplorable." Their proprietors are coming to him for help and advice.

Though many districts are affected, Hardanger has escaped better than its neighbors. The berry crop is excellent, and it is hoped that this will help to compensate for the loss of the apples and pears. It would be well worth the while of American exporters to correspond with the largest importer of apples at Bergen [name obtainable from the Bureau of Manufactures] regarding contracts for the coming winter.

MARKET FOR FRESH FRUITS.

CHIEF PORT OF MEXICO OFFERS GOOD OPENING FOR AMERICAN PRODUCT.

In stating that Veracruz presents an opportunity to shippers of fresh fruits seeking to create a market in Mexico, Consul William W. Canada gives the following particulars:

While it is true that nearly all the fruits of the northern United States are represented in the uplands of Mexico they are without taste or flavor when compared with fruits from the United States. Lacking cultivation in this country they have degenerated and dwarfed.

The Mexican people are very fond of northern fruits, and I have seen them in admiration over a lot of California grapes, peaches, apples, pears, and plums. There is nothing here to compare with them. A wholesale and retail grocery house in this city [name obtainable from Bureau of Manufactures] occasionally imports small lots, a few cases at a time, and these are shipped from the border by express via Mexico City. This transportation is costly and the prices charged for fruits are so high that none but the well to do can afford to purchase them. Grapes bring $1.50 Mexican currency per kilo, or 34 cents per pound in United States currency. Apples, pears, peaches, and plums are also sold by weight; the first mentioned have sold at from 25 to 45 cents Mexican, each, equal to about from 12 to 22 cents of American money. At these figures the great mass of the people can not purchase fruits from the United States.

In my opinion a market could be created here, by shipping the fruits from New Orleans direct to Veracruz. A regular line of ners is in operation and freight rates are quite reasonable. The

import duty amounts to 3 cents per kilo, Mexican currency, about three-fourths of a cent United States currency per pound. I am sure that if the prices charged here for American fruit could be set at a figure within the reach of all, a good business might be done.

LIME INDUSTRY IN DOMINICA.

GOOD RESULTS FOR LAST YEAR—PRESENT PRICE DEPRESSION.

Consul Chester W. Martin forwards from Barbados the following report by Consular Agent H. A. Frampton, of St. Lucia, on the lime industry of the near-by island of Dominica:

The crops and prices of limes last year were good, and to the United States were sent larger shipments than usual. A citrate of lime factory has been started and all that was made was shipped to the United States. Prices this year, however, have been so low that planters could not afford to transport their raw juice to the factory, as the cost of transport is heavy, and if prices do not improve it is doubtful whether the factory will continue operations.

The trade in green limes with the United States is decidedly on the increase, but in many instances poor fruit is being forwarded. This does the trade harm and must result in loss to the buyer and seller. The Planters' Association is trying to induce the Government to have inspectors to examine all fruit before shipment. If they succeed, a Government stamp will be put on each barrel that has been examined.

Raw limes and lime products to the value of $371,553 were exported during the calendar year 1907. Of this amount, $111,085 worth was sent to the United States, divided as follows:

		Amount.	Value.
Fresh limes	barrels	15,559	$26,206.00
Concentrated lime juice	gallons	26,669	51,483.00
Raw lime juice	gallons	8,750	1,575.00
Pickled limes	barrels	452	814.00
Citrate of lime	hundredweight	1,910	29,796.00
Essential lime oil	gallons	68	490.00
Distilled lime oil	gallons	188	722.00

To the United Kingdom was shipped $3,247 worth of fresh limes, $184,250 of concentrated lime juice, $29,550 of raw lime juice, $4,567 of lime-juice cordial, $7,457 of citrate of lime, $3,557 of essential lime oil, and $15,072 of distilled lime oil.

PACKING HOUSES IN MEXICO.

THE INDUSTRY OF THE REPUBLIC NOW CONTROLLED BY ONE COMPANY.

The following report, covering the slaughtering, packing, and refrigerating industries of Mexico, is furnished by Consul-General Benjamin H. Ridgely, of Mexico City:

An event of unusual commercial importance has just been consummated in Mexico City, viz, the sale of the Mexico City slaughterhouse to the Mexican National Packing Company. This company was organized in 1905, with a paid-up capital of $4,000,000 ($1 Mexican=49.8 cents American). In 1906 the name of the com-

pany was changed and its stock was increased to $10,000,000. In 1907 the capitalization of the company was again increased, this time to $15,000,000. The money has invariably been furnished by English bankers and capitalists, although an American is at the head of the enterprise.

The company when organized received certain valuable concessions from the Mexican Government, but recently it was proposed that certain of these should be withdrawn and other concessions granted in their stead. Incidentally it was brought about that the company, in receiving the new concession, should purchase the Mexico City slaughterhouse. The price paid was $2,500,000, or $1,245,000 gold.

The company thus finds itself in complete possession of the beef-packing business of Mexico, with one plant for slaughtering, refrigerating, and packing already in operation at Uruapan, and the plant just organized in this city. These two plants have a joint capacity of 1,100 beeves a day, but the company proposes to build at once a third plant, for export, at Veracruz, and a still larger plant at Monterey, the entire four to have a slaughtering and packing capacity of from 2,500 to 3,000 head per day.

SUPPLY OF BEEF CATTLE.

To an ordinary observer the natural question is, Where will the cattle be found to keep four such establishments in operation, and, furthermore, where will the company find a market? Skeptics say that the country can not supply sufficient cattle and hogs of satisfactory quality to keep even two of the plants going. On the other hand, the proprietors of the company call attention to the last statistics issued by the Federal Government, which show that in the United States of Mexico there are 5,142,457 head of cattle and 616,339 hogs, and that of this number 1,707,000 cattle and 308,000 hogs are tributary to the town of Uruapan, in the State of Michoacan, where the company is now operating its first packing house.

From this same section chiefly come the cattle and hogs now being used in the City of Mexico. Tributary to the company's proposed second plant at Veracruz, according to statistics, are 592,000 cattle. These cattle are located within a radius of 150 miles of Veracruz, and in a territory which is traversed by several railroads. The plant at this point will be devoted chiefly to a canning business, but will distribute refrigerated meat.

The company also claims that there are in the range tributary to Veracruz large numbers of cattle suitable for canning. These cattle, it is claimed, can be purchased for several dollars per head cheaper than cattle of a like quantity in the United States, and this, the company claims, gives them canning advantages.

CANNING AND DRESSING BEEF FOR EXPORT.

In regard to its canning business, it is understood that the company in its concession from the Mexican Government is to receive all its plate, tin, and all other supplies of machinery free of duty for a period of twenty years. A canning factory has already been equipped and will be in operation within a short time.

The company proposes to dress beef at one of the plants and to can at another, thus combining the two branches of the trade for an port business, principally to the United Kingdom.

In the City of Mexico about 400 cattle and 450 sheep are slaughtered daily, and now, since the purchase of the slaughterhouse, all of this will be exclusively in the hands of the company.

AMERICAN VERSUS MEXICAN MEATS AND LIVE STOCK.

The company claims that American packers can not compete with it in Mexico, because the cost of live stock in the United States is so much greater than in Mexico that any shipment of live stock from the United States to Mexico is entirely out of the question. It is also claimed that the high tariff duty on packing-house products coming into Mexico, coupled with the higher prices of cattle and hogs in the United States, will make the importation of American dressed meats into Mexico impossible.

But in spite of the company's concessions, which would appear to give it a monopoly in Mexico, there are plenty of skeptics here who doubt that it will be able to keep its packing houses going without importing both cattle and hogs from the United States. Incidentally it may be added that it is already importing smoked hams and sides from Chicago and Kansas City.

The active manager of the company is an American. Several other Americans are connected with the enterprise, but the capital has all been found in England, and an Englishman is its moving spirit.

NUMBER OF LIVE STOCK IN MEXICO.

In this connection it may be interesting to know something in detail as to the volume of live stock in Mexico, and to that end the following recapitulation for the last Federal statistics is given:

States.	Cattle.	Sheep.	Hogs.	Goats.
	Head.	*Head.*	*Head.*	*Head.*
Aguascalientes	50,357	67,974	4,488	38,197
Baja California	52,101	5,346	2,138	4,074
Campeche	41,946	18	1,651	41
Coahuila	182,001	180,415	2,132	615,144
Colima	51,230	296	5,702	2,450
Chiapas	191,193	16,117	18,655	3,158
Chihuahua	396,023	108,273	17,543	77,728
Distrito Federal	12,384	2,715	686	1,130
Durango	233,041	383,947	21,684	534,304
Guanajuato	273,937	194,805	67,602	239,933
Guerrero	162,447	6,677	42,475	38,913
Hidalgo	50,502	186,663	17,636	50,067
Jalisco	663,727	67,174	76,529	21,769
Mexico	107,934	147,643	13,327	22,907
Michoacan	497,910	102,086	73,071	37,211
Morelos	50,609	8,314	4,632	3,727
Nuevo Leon	123,388	151,526	16,565	916,915
Oaxaca	104,656	61,406	4,422	65,889
Puebla	78,971	228,358	19,738	193,397
Queretaro	64,554	31,839	4,825	72,693
San Luis Potosi	174,658	415,697	22,898	519,844
Sinaloa	106,381	475	568	888
Sonora	260,732	4,550	2,957	3,810
Tabasco	105,584	835	14,405	1,763
Tamaulipas	178,271	108,284	14,427	264,911
Tepic	151,438	1,509	86,523	2,169
Tlaxcala	11,504	71,372	3,945	20,948
Veracruz	392,858	42,734	27,796	273
Yucatan	182,355	678	7,148	19,411
Zacatecas	189,765	826,704	19,971	429,377
Total	5,142,457	3,424,430	616,139	4,206,041
Total value in gold	$40,540,994	$3,006,578	$1,024,929	$3,610,714
Value per head, gold	$7.88	$0.88	$1.66	$0.86

COFFEE TRADE.

GERMANY.

PRODUCTION OF CAFFEINE AND OF COFFEE FREE FROM NARCOTIC.

Consul-General A. M. Thackara, of Berlin, contributes the following valuable account of the progress made by German chemical houses in the production of caffeine from various sources, caffeine-free coffee and their sale in Germany and abroad:

Caffeine, which has been found to be identical with thein of tea and guarin of guarana, belongs to the family of plant alkaloids, which can be produced by chemical processes from various substances. It may be found in the leaves and berries of the coffee tree, leaves and flowers of China, and Ceylon and other East Indian tea leaves, leaves of Paraguay tea, kola nuts, guarana-pasta, in paulinia seeds of one of the Brazilian creepers (Paulin saubilis), in the bush tea of South Africa, and in the Appalachian tea of the North American Indians.

In Germany the great bulk of the caffeine of commerce is at present produced partly from the refuse of China and Ceylon tea and partly from the tea imported from China for the purpose, supposed to consist more or less of tea once used by the Chinese and then dried.

Caffeine is also produced as a by-product by a Bremen firm in the patented process of manufacturing the caffeine-free coffee, which is claimed to contain only an exceedingly small quantity of the caffeine alkaloid and can be used without any of the harmful effects of the pure coffee. The process is patented in most countries, but the method of manufacture is kept secret. I am told that the caffeine is extracted by means of benzol, the coffee bean being treated by a secret process in porcelain vessels.

SUBSIDIARY AND SALE COMPANIES—SYNTHETIC CAFFEINE.

Beside the parent company there has been recently incorporated another stock company, with a capital of 2,500,000 marks ($595,000), for the purpose of acquiring, protecting, and exploiting the patents of the original company in foreign countries. The original company cedes the entire rights of the patents for the manufacture of caffeine-free coffee, tea, and other products to the new company in the following countries: Belgium, France, Austria-Hungary, Denmark, Sweden, England, Italy, Finland, Spain, Portugal, United States, Canada, Brazil, Argentine Confederation, Peru, Chile, Cuba, and also in the following countries as soon as the patents for which application has been made have been granted, Norway, Turkey, Mexico, and Uruguay.

Both of the companies mentioned are under agreement to turn over to a third company the caffeine which they extract from the coffee, to be refined and sold commercially.

It may be stated that the caffeine-free product is being extensively advertised in Germany and appears to be meeting with success. The extraction of the alkaloid does not appreciably alter either the flavor or the appearance of the bean.

Caffeine is also produced synthetically from guano and uric acid by a firm in Waldhof bei Mannheim under numerous patents, but

from well-informed circles it is learned that the artificial product is virtually still in the experimental stage.

PROCESSES OF MANUFACTURE.

The various manufacturers who produce caffeine from tea have their more or less secret processes. In general terms the method of extracting the alkaloid from tea is as follows: Ten parts of the tea are mixed with one part of lime and digested with three parts of hot water for several hours on the hot-water bath. The extract is pressed through cheese cloth and the process repeated several times. The extracts are united, allowed to settle, filtered and treated with lead acetate till the addition of more lead acetate still produces turbidity. The precipitate is allowed to settle, the clear liquid decanted and concentrated on the water bath, mixed with pure potassium sulphate and animal charcoal (one-fourth part of each), the whole evaporated to dryness and then extracted with chloroform. The chloroform is distilled off and the residue recrystallized from boiling water. This latter process is sometimes repeated as many as six times till the caffeine is cleansed from all coloring material, it having been brown at first. There is also another process in which the caffeine is from the start extracted with chloroform, but this method is more expensive on account of the greater consumption of chloroform, but the product is supposed to be of greater purity. The less pure article is usually exported.

There are no statistics published which would indicate the production of or foreign trade in caffeine in Germany, but from information obtained from one of the large German chemical companies, there are about 20,000 kilos (44,092 pounds) manufactured annually, of which more than one-half is exported. The imports of the product are comparatively small, probably not over 1,000 kilos (2,204.6 pounds).

The total European caffeine production is estimated at 23,000 kilos (50,706 pounds) of which 13,000 kilos (28,660 pounds) are exported from the various countries of production.

MISBRANDING OF COFFEE.

COURTS CONDEMN ALLEGED CAFFEINE-FREE IMPORTATION.

The announcement is made by the Board of Food and Drug Inspection at Washington that under the Pure Food Act the district court of the United States for the district of Massachusetts recently condemned 210 packages of coffee labeled and branded "Refined Coffee, Digesto Brand." This had been consigned from abroad via Boston to a New York concern, the label stating that "the excess of both caffeine and caffetannic acid had been removed," the claim being made that this improved its flavor, and that it refined the coffee from elements that caused various internal disorders. The Board of Chemistry made an analysis of the coffee and found this not to be true and that it had not been treated in any manner so as to produce a material difference between it and the average coffee. It was therefore decreed by the court that the coffee was misbranded but not adulterated, and that upon the payment of the costs of the libel proceedings and upon the delivery of a $200 bond, with the stipulation that the ship-

ment should not be sold contrary to the provisions of the Pure Food Act or the laws of any of the States, the packages should be delivered to the claimant.

BRAZIL.

SAO PAULO ANNOUNCEMENT ON COFFEE VALORIZATION.

Consul-General George E. Anderson, of Rio de Janeiro, contributes the following on the attitude of the Brazilian State of Sao Paulo on the coffee supply:

In the message just submitted by the president of the State of Sao Paulo to the legislative assembly of that State is given the first official statement of the position of his government as to recent sales of coffee under the valorization scheme. His statement is the latest official outline of the valorization situation and is interesting chiefly in its declaration that the State will make no more sales, pending the entering of the current crop, but firmly hold the stock of coffee that it has acquired. In his statement to the legislative assembly President Albuquerque Lins says:

In accordance with the determination of the government to protect the agricultural and commercial interests of the State, I have carried out, during the year 1907, and am continuing to carry out, the plans adopted for the defense of the coffee industry. As shown by the annual statement for 1907, the State of Sao Paulo has entirely met the obligations contracted in the purchase of 8,146,123 bags of coffee, stored in various ports of Europe and of the United States, representing a purchase price of 270,578,555 milreis ($82,391,170). The government has met the expenses incurred in this service from the following sources (milreis=30 cents, the present rate of exchange fixed by the government):

	Milreis.
Negotiable drafts sold by agents abroad	184,045,271
Loan of £3,000,000 from J. Henry Schroeder & Co. and National City Bank	46,449,000
Loan of £3,000,000 by Federal Government	48,000,000
State treasury bills	16,060,422

These amounts are absolutely guaranteed by the coffee in warehouses and by the 3 francs (58 cents) surtax. The surplus realized from the above sums has been applied to interest charges, payment of loans, execution of contracts, and other expenses the exact classification of which depends upon the manner in which loans are to be liquidated. Consignments were made promptly when they were due, as per contract, the State having punctually fulfilled all obligations assumed in taking upon itself the great responsibilities of this operation.

After the annual statement for the year 1907 was closed, with which statement this report is principally concerned, the government bought 328,500 bags more, which, with the 8,146,123 bags previously purchased, brought the total to 8,474,623 bags. The bills for the latter purchases were paid by the treasury.

At the end of May and in June of the current year the appreciable decrease in the visible supply of the world's coffee and the desire to supply the demands of foreign coffee dealers led the government to decide for the authorization of a public sale of its coffee in such small quantities as might meet the demands of consumption, at a price not lower than 50 francs ($9.65) per bag of 60 kilos. (132 pounds). These sales took place in Hamburg, Havre, Rotterdam, London, Trieste, and New York. In this way the State of Sao Paulo disposed of 305,160 bags, thus reducing its holdings to 8,169,463 bags.

Entries of new coffee from the 1908–9 crop are now beginning and the government is not disposed to sell more of its coffee, continuing firm in its resolution to withhold its coffee purchases for as long a period as may be necessary.

This declaration that the State intends to retain its stock of coffee is not interpreted here as indicating that the valorization stock will not be sold if or when the price of coffee reaches the minimum price fixed in the valorization agreement.

IMPROVED COFFEE-HULLING MACHINE.

The efforts to improve machinery for preparing and handling coffee are being continued in Brazil under more or less direct help from the State governments, and some are meeting with a measure of success. Recently a new machine for hulling (beneficiar) coffee was installed and operated on the "Pratinha" plantation at São Manoel, in the State of São Paulo, belonging to Señor Amancio Ribeiro. The machine was invented and built by the firm of Martins, Amaral & Co., of São Paulo, and is known as the "Amaral" machine. The machine hulled 400 arrobas or about 12,953 pounds of coffee in ten hours, separating the beans into three grades. The machine is about 16 feet high, occupies about 3 square yards of space, and is operated by a 6-horsepower engine. It is considered a notable success.

SUMATRA.

DUTCH COLONIAL GOVERNMENT CHANGES STATUS OF PLANTERS.

Consul B. S. Rairden, writing from Batavia, Java, says that the government of the Netherlands India has passed a law leaving the cultivation and sale of coffee in the Padang district and other districts in West Sumatra free to the natives. Concerning this law, which went into effect on March 1, 1908, and its effect, the consul adds:

Previous to that date the natives paid no taxes to the government, but instead were compelled to give certain free labor to the government on coffee plantations, and otherwise. Further, the natives who cultivated coffee were compelled to sell their product to the government at the low rate of 15 florins ($6) per picul of 136 pounds for first quality.

Beginning March 1, 1908, the government levied an income tax of 2 per cent on the natives of the west coast of Sumatra, leaving them free to cultivate and sell their own coffee independent of the government. Consequently the government coffee sales, which have been held at different periods at Padang, will be abolished.

In order to protect the native coffee growers and keep the prices at a fair margin, the government guarantees a certain rate for the different grades of coffee during the year. It is not likely, however, that the natives will accept the government rates, as they will be able to realize much higher prices for their product from the coffee shippers at Padang, who send their buyers to the interior to purchase the crops.

The following figures, giving the different grades of coffee cultivated in the Padang district, shows estimates of crop for the year 1908:

	Pounds.		Pounds.
Interior	3,400,000	Mandheling	544,000
Painan	95,200	Liberia	272,000
Ayer Bangis	418,000		
Ankola	272,000	Total	4,991,200

The foregoing grades of Sumatra coffee are well known to the coffee market in the United States.

GRAIN TRAFFIC.

SHIPPING INSPECTION.

COMPLAINT FROM FRENCH IMPORTERS OF AMERICAN CEREALS.

In submitting a translation of a letter from the Société pour la Défense du Commerce et de l'Industrie, of Marseille, Consul-General Robert P. Skinner comments:

This is, as its name implies, a defensive organization, composed of hundreds of the most substantial business men of this community, complaining of the carelessness with which grain-inspection certificates are delivered at various American ports, and on which several reports have been made in the past. It is my understanding that the Montreal certificates complained of usually cover grain in transit from the Northwestern States. In acknowledging this communication, the correspondents have been requested to supply a more definite statement, if possible, but thus far none has been received. The letter from the society dated at Marseille, July 1, is as follows:

We have been consulted recently by several of our members who are engaged in trade with the United States, and who complain in regard to the certificates of inspection delivered at various American ports upon products in transit to our port.

Our members call to our attention the exaggerated ease with which these certificates are delivered both at New York and at Montreal, and the frequent inexactitudes which result from the method of procedure in vogue. Our members suggest that if no remedy can be found, the French business interested might be compelled to exclude from its contracts arrivals from the ports complained of, as have been excluded already shipments from the Gulf of Mexico by the determination of buyers for similar reasons.

It occurs to us that in your capacity as the authorized representative of the United States at Marseille, it is desirable to bring this state of affairs to your notice as it might become very prejudicial to relations with the northern part of the United States and Canada.

It has occurred to us that you would be glad to write to the proper department of your Government, in order to give information of these complaints of which we are the echo, and to ask your Government to intervene before the inspectors charged with the verification of the quality of merchandise shipped to France; and to require of them that they fulfill their duties with the exactness which is indispensable to the maintenance of commercial relations between our respective countries.

We thank you in advance, sir, for the service which you will thus render to the commerce which you represent and to French business interests, and we beg you to receive, etc.

It is my understanding that a bill is now pending before the United States Congress, the object of which is to provide for uniform Government inspection of grain, and it is my personal conviction that complaints will cease only when the Government does undertake this important work. In the vast majority of cases inspection certificates are issued with the greatest care, but there are just enough instances of carelessness and lack of uniformity in inspection methods to give rise to serious complaints from time to time.

Thus far American boards of trade and chambers of commerce, although informed of these complaints, have failed to provide an effective remedy by means of a mutual understanding and the organization of a comprehensive inspection service under their own control. It is obvious that in so important a matter as the inspection of grain for export, differences of grain standards as between exporting ports and differences in administration methods can work great mischief,

and tend to break down the present system of selling American cereals on the basis of certificates rather than of samples. If private trade organizations now issuing these certificates will not surround them with such safeguards as to make certificates issued at every port of equal value, the only alternative is for the Government to do what private initiative has thus far failed to accomplish.

CANADIAN WHEAT CROP.

PRODUCTION AND STORAGE IN MANITOBA, SASKATCHEWAN, AND ALBERTA.

Consul-General John G. Foster, of Ottawa, advises that the total yield of wheat for the three provinces of Manitoba, Saskatchewan, and Alberta is given by the Canadian department of trade and commerce as follows for the past eight years:

Year.	Bushels.	Year.	Bushels.
1900	17,053,000	1904	56,000,000
1901	62,820,000	1905	84,100,000
1902	67,000,000	1906	102,600,000
1903	56,100,000	1907	70,000,000

It is officially estimated that the crop for the year 1908 will amount to 110,000,000 bushels. To harvest this crop will require, it is claimed, a force of from 20,000 to 25,000 laborers in addition to those now in the provinces, and the Canadian Pacific Railway Company is advertising excursions at low rates to induce laborers to go out to these western fields.

Practically all the winter wheat grown in Canada is produced in the province of Alberta. The highest yield by acre for spring wheat grown in Alberta was 25.27 bushels in 1898. The average for the nine years ending 1906 was 21.27 bushels per acre.

The statement of county elevators and warehouses, with Ontario terminals, follows:

	Stations.	Elevators.	Warehouses.	Capacity.
Manitoba	282	685	20	21,015,600
Saskatchewan	176	508	8	14,666,500
Alberta	59	109	6	3,818,900
Total	517	1,302	34	39,501,000
Ontario terminals	5	13	.....	18,758,700
Grand total	522	1,315	34	58,259,700

CANADIAN GRAIN SHIPMENTS.

STATISTICS OF AMOUNT HANDLED AT FORT WILLIAM AND PORT ARTHUR.

Consul-General John Edward Jones sends from Winnipeg the following report on the total grain shipments from the ports of Fort William and Port Arthur to Canadian and foreign ports, during the grain year, from September 1, 1907, to August 31, 1908:

The records of the chief grain inspector show a total shipment of 62,107,516 bushels of grain during the grain year. Below is a com-

parative statement of grain shipments from the ports of Fort William and Port Arthur, for the grain years 1905, 1906, and 1907:

Year.	Wheat.	Oats.	Barley.	Flax.	Rye.	Total bushels.
1907	47.521,490	11,096,405	1,971,938	1,514,644	3,036	62.107,516
1906	54,849,649	12,744,736	1,839,177	753,307	9,010	70,195,881
1905	55,509,720	5,721,815	959,546	466,928	.....	62,648,010

It is interesting to note in connection with the shipment of grain for the year just closed, that Canadian vessels carried to Canadian ports 82 per cent of the total shipments; Canadian vessels carried to American ports 6 per cent; and foreign vessels carried to American ports 12 per cent.

MILLING IN CHINA.

PROMINENT INDUSTRY AT LARGE COMMERCIAL CITY.

Vice-Consul-General Albert W. Pontius, writing from Hankow, supplies the following information of the progress at that Chinese business center in milling both wheat and beans:

The past year has seen several additions made to the number of flour and bean oil mills. On the river Han there are three flour mills running, of which two are nominally British, but chiefly supported by Chinese capital. A large mill owned by Japanese is also being built on the Han and will be ready for work in a very short time. The mill on the French concession has been added to and improved.

The estimated annual output of the flour mills at work is given as 2,250,000 tons, which is a little more than 125 pounds per head of the population of Hupeh Province; 4,180 tons were exported to other ports in 1907, leaving the balance for inland consumption.

It might, at first sight, appear that there would be danger of overproduction, in spite of the fact that the Chinese are taking more and more to wheat flour, were it not that the mills have in bran a valuable by-product, which finds a ready sale in Japan, where it is used as a fermenting agent in the manufacture of beer. There is also a demand for it as fodder for cavalry horses. The amount of bran exported in 1907 was 5,990 tons, valued at $85,400. Most of the wheat ground in these mills comes from Honan, and one criticism of it is a lack of quality compared with foreign wheat, due, it is supposed, to the poor manner in which the land producing it is prepared. It also does not make so white a flour as the foreign article.

There were five mills in Hankow in 1907, turning out bean cake and bean oil, with a daily capacity varying from 300 to 3,000 cakes. Three of these mills worked at a profit, one has only recently been started, and one lost money and has closed. According to information received, from five cakes 26⅔ pounds of oil are derived. Each cake weighs 61⅓ pounds. The price of beans averages $1.80 per 133⅓ pounds, and the cakes sell for 60 cents each, and the oil at about $5.50 per picul of 133⅓ pounds. There is a growing demand in Japan for Hankow-made cakes, which also supply the Swatow market.

AN OPENING FOR AMERICAN MACHINERY IN ITS MANUFACTURE.

Vice-Consul C. L. L. Williams, of Chefoo, furnishes the following report, prepared by Marshal Edgar Kopp, of that consulate, concerning the export and manufacture of Chinese bean cake:

The export of bean cake from North China is almost monopolized by Chefoo, Newchwang, and Dalny. Newchwang, being nearest to the bean fields of Manchuria, leads at present, but Dalny threatens to become a serious competitor, having excellent harbor and railway facilities. During the first quarter of 1908 the total exports of bean cake from all Chinese ports amounted to 321,910,497 pounds, of which 132,235,649 pounds were exported from Dalny, 51,059,099 pounds from Chefoo, 59,979,765 pounds from Hankow, 35,064,652 pounds from Chinkiang, 23,156,231 pounds from Shanghai, and only 17,675,853 pounds from Newchwang, although 50 per cent of the total exports from all ports during the year 1907 were from Newchwang.

The exports of bean cake from Chefoo go to southern Chinese ports, while those from Newchwang go chiefly to Japan, where it is used, with great success, as a fertilizer on the rice and sugar-cane fields; it is also extensively used for cattle and hog feed.

The manufacture of bean cake is conducted in a very primitive way. The work is done by hand, no steam or machinery being used, and there should be an opportunity to introduce some American machinery to replace the antiquated manner of forming and pressing.

The by-product, bean oil, is of very good quality, and, if the beans are good, about 45 pounds of oil is got out of 5 bean cakes, each cake weighing over 100 pounds. It is extensively used for cooking purposes, and sells for $4.50 per 135 pounds. Chefoo has about 70 bean-cake factories, each of the largest employing 12 men, whose wages are about 6 cents gold per day, including board and lodging. The daily output of each factory is 120 cakes, which sell for 81 cents gold per cake. [Full descriptive information, by the consul, concerning the manufacture of bean cake, is filed in the Bureau of Manufactures.]

FOOD TAXATION COMPARISONS.

GERMAN REVIEW SHOWS COST IN EUROPEAN COUNTRIES AND AMERICA.

Vice-Consul-General Charles A. Risdorf writes from Frankfort that, in view of the various projects of taxation in Germany, an essay by S. Rosenbaum seems of interest. The author examines into the duties on groceries, sugar, tobacco, and food of all kinds and the internal taxation on liquors, tobacco, and food in the several States and comes to the following results:

The burden of taxation is shown in the following schedule, the figures meaning marks (mark = 23.8 cents) per capita of the population:

Years.	United Kingdom.	France.	Germany.	United States.
	Marks.	*Marks.*	*Marks.*	*Marks.*
1870	26.72	12.85	.....	19.17
1875	27.54	21.42	6.12	15.10
1880	24.88	23.86	7.54	14.90
1885	25.50	23.46	10.82	14.28
1890	24.88	25.09	14.28	15.71
1895	25.30	26.12	12.65	11.63
1900	28.79	27.33	14.89	19.38
1903	32.84	26.11	14.89	17.95
1906	30.60	25.90	15.91	17.95

This table covering a period of twenty-six years shows interesting details; thus in the United States the burden of taxation has de-

creased, the Americans now paying less per capita than in the year 1870. The development in England is quite similar, but it has been disturbed by the financial effects of the war in Transvaal. Even so the increase is moderate. Quite different results are shown in France and Germany. In France this taxation has increased about 100 per cent, and in Germany also there is a rapid rise.

The author also calculates the amount of taxes derived, per capita, from food, liquors, and tobacco in different countries.

Countries.	Food and groceries.	Liquors.	Tobacco.
	Marks.	*Marks.*	*Marks.*
England	6.65	17.75	6.32
France	8.36	9.58	7.75
German Empire	10.00	4.48	1.43
United States	3.47	10.81	3.67

According to this schedule the taxes on food are higher in Germany than in any other country. Still there is a fault in this calculation; only the revenue is taken into consideration and no allowance is made for the increase in prices of domestic products caused by high customs-house duties. The amount of duty collected for corn does not show the real burden of taxation resting on the population; the entire consumption of corn should be taken into consideration, and then we find quite different results in France and Germany and even more benefit to England and America. It must also be borne in mind that Germany is a Federal State and that the States, counties, and communities frequently impose taxes on meat, beer, bread, etc., which are not included in this calculation.

SUGAR TRADE.

CUBA.

GOVERNMENT STATISTICS OF PRODUCTION.

General Julian Betancourt, chief of the bureau of agriculture of the Cuban Government, furnishes interesting data regarding the sugar industry of the island, which Consul Max J. Baehr, of Cienfuegos, summarizes as follows:

The pamphlet is published in the Spanish language and divided into two parts. One deals with the harvest of 1905–6 and the prices of sugar, and the other with foreign trade in so far as it is connected with the sugar industry in 1905, 1906, and 1907.

According to the first part, in the harvest of 1906–7, 186 sugar mills were running, 5 more than in the harvest of 1905–6 and 7 more as compared with the harvest of 1904–5.

The amount of cane grown in 1906–7 by the 186 mills was 14,214,946 English tons, as against 12,532,997 tons in 1905–6, making, therefore, a notable increase in the one year. This large amount of cane was grown on an approximate area of 849,000 acres. The sugar production of 1906–7 was 1,444,310 tons, the largest in the history of the island and 214,574 tons more than in 1905–6 and three times more than that of 1904–5.

Alcohols and native rums naturally had a large increase during 1906–7. In this year there were manufactured 7,016,432 liters of

aguardiente (native rum or brandy) and 1,514,535 liters of alcohol, as against 3,909,849 and 1,249,577 in 1905–6.

Molasses statistics are also interesting. In 1907 there was exported 34,532,065 gallons of the sweet liquid, with a money value of $936,-789, as against 31,530,389 gallons, valued at $774,627, in 1906, and 28,130,263 gallons, valued at $794,542, in 1905.

EXPORTATION OF CRUDE AND REFINED SUGAR, ETC.

Part second or the foreign commercial view of the crops is equally interesting. The exportation of crude sugar during the three years of which the government report treats, according to the custom-house record, were: In 1907 1,292,776 tons, while in 1906 the amount only reached 1,180,615 tons, and in 1905 1,077,193 tons, thus showing an approximate increase of 100,000 tons each year in exportation. According to these statistics, however, a short crop is more to be desired than a large one, because the increased prices at which the product is sold bring in far more money to the country than does the large crop. The value of 1905 exports were $71,753,337, while the crop of 1907, though the largest in the history of Cuba, brought only $57,909,932, or about $14,000,000 less. In 1906 the crop, though small, brought such good prices that $64,720,336 was realized.

Extraordinary advance has been made in the exportation of refined sugar. The archives show that the exports in 1905 did not reach a ton, passing 8 tons in 1906, while in 1907 the total reached 3,311½ tons, increasing from $129 to $1,198, and then to $137,739.

Totaling the sugar, molasses, sweets, candies, aguardiente, rum and other distilled products Cuba exported, the values obtained are: 1907, $66,012,570; 1906, $58,969,916.

Importations of machinery, sacks for sugar, barrels for molasses, etc., in 1907 amounted to $1,445,254.

Comparison of exports and imports shows a balance in favor of Cuba in this industry of $63,368,276 in 1907 and $55,556,970 in 1906.

MOLASSES OUTPUT.

Consul Max J. Baehr writes from Cienfuegos that this year's output of molasses in Cuba is estimated at about 40,000,000 gallons, which is higher than the output of last year. He gives the following details:

The extraction has been better than first anticipated. It is estimated that 30,000,000 gallons of the production will be exported and the remaining 10,000,000 gallons consumed in Cuba, but large quantities are converted into alcohol and finally find a market in foreign countries.

CANADA.

ABANDONMENT OF BEET SUGAR INDUSTRY IN ONTARIO.

Consul A. G. Seyfert, of Owen Sound, furnishes the following information concerning the abandonment of the beet-sugar industry in Ontario and the causes thereof:

Six years ago western Ontario had great hopes of rivaling the State of Michigan in raising sugar beets and manufacturing them into sugar. Ontario has practically the same soil and climate as Michigan. This and the success of the industry across the lake in-

duced the Canadian farmers to raise sugar beets. Beet-sugar factories were erected at Wiarton, Dresden, Berlin, and Wallaceburg at a cost of several million dollars. All these plants were operated for a time at a loss, with beets raised in the locality of each factory.

In the erection of all these beet-sugar plants 90 per cent of the machinery was imported from the United States.

The factory at Dresden, the first to be abandoned, was sold to a firm in Michigan, and has been removed to that State as "returned American goods."

The Wiarton plant is now being dismantled and the machinery being shipped to Los Angeles, Cal., under the same conditions, to be there used as a distillery. The plant at Berlin has also been idle for some time and will be abandoned. The Wallaceburg factory is in operation, but much of the output is the product of sugar refined from the raw material imported. In other words, this plant is more of a sugar refinery than a manufactory of beet sugar.

The cause of the failure of the beet-sugar industry in Ontario is due to several reasons: The farmers, after two seasons' trial, refused to raise any more sugar beets. They allege that it did not pay to farm them. They claim that labor is too expensive and the work too laborious. Other crops, with less labor, brought them more money per acre.

AFRICA.

A SUGARY LEGUMINOUS FRUIT.

Consul Joseph I. Brittain, of Prague, quotes an Austrian journal which tells of a plant recently discovered in Africa, belonging to the family of leguminous plants, called *Parkia biglobosa*, which produces a fruit containing 25 per cent saccharine and about 20 per cent reducing sugar, and when ripe about 30 to 40 per cent saccharine. If the percentage of sugar is correctly stated, the plant would take first rank among sugar-producing plants. The extraction of the sugar from the fruit is said to be accompanied by no difficulties.

HUMANE SLAUGHTERING.

IMPROVED FOREIGN METHODS.

WORLD INTEREST AND REGULATIONS FOR PREPARING ANIMALS FOR FOOD.

The American consular officers were recently requested to prepare reports on the methods of slaughtering animals for food in foreign countries. Their investigations show widely varying operations in cities of the same country, there being, apparently, no uniform laws, although the cities have regulations and restrictions. Abstracts from some of these reports are presented as follows:

FRANCE.

MODERN ABATTOIR AT LA VILLETTE, PARIS.

Consul-General Frank H. Mason, of Paris, has prepared the following statement on the mode of killing live-stock at the abattoir of La Villette, a modern institution of the French capital, the material being gained from an investigation by Consular Clerk Milton B. Kirk:

The cattle slaughtered at La Villette are animals which have been grown and fattened in France. Most of them have been stabled and fed by hand and are, therefore, tame and tractable. The slaughtering of beef cattle at La Villette takes place in a long hall, open at both ends and covered by a glass roof. The oxen are first blindfolded with a small leather mask tied over the face so as to cover the eyes. They are then brought into the hall in groups of not more than ten. By means of a rope thrown over the horns and run through a ring in the cement pavement, the head of the animal is drawn down sidewise to within a few inches of the floor.

The killer then approaches with a hammer of peculiar construction, called the "English Merlin," having a wooden handle about 2 feet long and a long steel nose in the form of a hollow punch about an inch in diameter, 6 inches long, and with a sharp cutting edge. With this instrument the killer deals a heavy blow in the center of the forehead, cutting a jagged hole through the frontal bone and penetrating the brain. The animal falls paralyzed, and a sharpened rattan is then thrust into the orifice thus made and forced through the brain and along the spinal marrow to a depth of two or three feet, causing absolute death, and, as is claimed, facilitating the complete bleeding of the animal. The throat of the ox is then cut and the animal is bled and dressed in the usual way.

There can be no question that this method of killing causes practically instantaneous unconsci[illegible] death [illegible] doubtful

whether it could be practically applied on a large scale to the untamed cattle that are usually slaughtered in the United States.

CALVES AND SHEEP.

Calves are laid on a horizontal wooden frame or wheeled truck of lattice work, raised several inches above the floor. The two hind legs and right fore leg are tied down to the lattice work, the calf lying on its right side in such a position that its head overhangs the side of the truck. The left leg is then tied back so as to expose the neck, and in this position the butcher takes the head of the pinioned calf between his knees, severs its jugular veins and arteries with a knife and leaves it to bleed to death.

Near the door of the room, or pen, in which the sheep are temporarily confined, is a long latticed platform or truck, standing about 3 feet from the ground. The sheep are taken, one at a time, and laid, back downward, on the truck, so that the head of the animal projects beyond the edge of the latticed framework. Below is a long shallow trough to receive the blood. A butcher, standing at the side of the truck on which the sheep is lying, bends back the head of the animal and cuts its throat with a knife. To facilitate the flow of blood into the trough, a boy, with a pole having a hook at the end, holds open the gash in the throat. The work is done rapidly and fairly well.

HANDLING OF SWINE.

Hog slaughtering takes place in a large circular building, similar in appearance to the locomotive round-house of an American railroad. Inside this building are a number of stalls, the floor of which is covered with straw. Into a stall of this kind hogs, to the number of eight or ten, are driven and the entrance closed. The killer then enters, armed with a spherical maul or mallet made of hard, heavy wood, with a handle about 3 feet in length. The terrified hogs crowd against the wall of the pen; the killer follows and endeavors, by a knock on the forehead with the mallet, to stun successively each pig in the group. Sometimes the mallet lands fairly on the forehead and the pig drops unconscious, and sometimes the blow descends on the nose or ear and has to be repeated before the desired result is attained. The killer perseveres until he gets in an effective blow, when the stunned pig is "stuck" in the usual manner and its blood collected in a large shallow pan with a long handle, held by a woman, who pours her gatherings into a large pail, to be used for making sausages and other purposes.

The bristles are then roughly cut off by hand and the hogs laid, with backs upward, in a row and covered with straw, which being set on fire, singes off the remaining bristles, and the hog is thus dressed without the scalding that is commonly employed for that purpose in the United States.

NANTES.

SUCCESSFUL EXPERIMENTS IN ELECTROCUTING ANIMALS.

Consul Louis Goldschmidt, of Nantes, furnishes the following description of the experiments with electricity in the slaughtering operations that have been demonstrated at that French city:

Very satisfactory experiments in electrocution of animals for food consumption have been made within the past year by Dr. Stephane

Leduc, of the Medical School of Nantes, and they undoubtedly demonstrated that animals can be electrocuted very easily and without causing pain. During the course of researches made by Doctor Leduc with a view of causing electric sleep, he discovered this new and rapid method of inflicting painless death, a method which is very simple and inexpensive. The apparatus necessary is simple and not very costly, and the electric current used does not require to be stronger than such as is used for lighting purposes of low voltage. This current, which is a direct one, is interrupted at frequent intervals per second, and these frequent interruptions are produced by a special apparatus designed by Doctor Leduc. If an animal is submitted to this current, and if functions of life, circulation, respiration, etc., are stopped, a perfect and general insensibility is produced, while none of the essential organs is injured. If the current is stopped before two minutes have elapsed, life is restored again, and the animal does not appear to have suffered from the experiment. An animal subjected to this current for more than two minutes dies without pain from asphyxia.

The animal to be electrocuted is placed upon a platform insulated from the ground by glass or porcelain stands. One electrode is placed upon the forehead between the eyes, and the other is placed at the extremity of the spinal column, so as to concentrate the current through the brain and spinal marrow, the two places where the electrodes are applied having previously been shaved in order to secure a perfect contact. As soon as the current is established the animal falls senseless, and it is then bled. Owing to the great contraction of the muscles, the bleeding is very profuse, and consequently the meat is supposed to be of better quality.

GERMANY.

SLAUGHTERING ANIMALS FOR FOOD IN BERLIN.

Consul-General A. W. Thackara writes that all animals intended for food purposes in the city of Berlin must by German law and municipal and police regulations be slaughtered in the municipal abattoirs under the strictest police and veterinary surveillance. Mr. Thackara describes their operation as follows:

Only the most humane methods of killing the animals are permitted to be used, and the utmost attention must be paid to cleanliness and to the prevention of infection in all the various operations. The Berlin abattoir, located in the northern part of the city, was built in 1881 at a cost of over $4,250.000, and covers an area of nearly 115 acres. It is regarded as one of the model institutions of its kind in Germany, one in which the most modern hygienic methods are used.

The abattoir is divided into two sections—the cattle market and railway station on the east and the slaughter yards and houses on the west. In the cattle-market section there are sheep, cattle, and hog stalls, the exchange, various sheds in which the cattle are sold, sheds for isolating animals which are either infected or are under suspicion, disinfecting plant, etc. In the railway station there are various tracks and platforms, where four cattle trains of 59 cars each may be unloaded or loaded simultaneously.

The slaughter yards contain the police slaughterhouse, where animals which are ill or suspected and have been rejected by the veteri-

nary officials are killed by the police butchers under the direction of the veterinaries; a hall for the sale of meat, three cattle slaughterhouses, administration buildings for the officials of the abattoir and for the veterinary surgeons, etc., pathological museum, and the municipal meat-examination department. There are further an institution for the preparation of lymph, slaughterhouses for calves and sheep, with the necessary stalls for small animals, cooking and sterilizing department, kitchens for trying out fat and making tallow, albumen factory, plant for making margarine, one for cleaning bristles, etc. In the section for killing hogs there are three hog yards with room for 10,000 hogs, five slaughterhouses, boilerhouse, cold-storage plant, a building for the microscopic examination of meat, etc.

In 1905 the sale of cattle and other animals amounted to nearly $55,000,000. The number of animals slaughtered during that year was as follows: 167,279 cattle, 166,150 calves, 464,364 sheep, 964,612 hogs, and 12,890 horses.

In the municipal meat-inspection department 657 persons were employed, including 1 director, 47 veterinary surgeons, 15 assistant veterinary surgeons, 14 section superintendents for the trichina department, 26 assistant superintendents, 121 male microscopists and 120 female, etc.

Of the animals slaughtered in 1905, in 2,373 cases the entire bodies were found to be unfit for food; in 339,633 cases the parts which were not affected were allowed to be used; 3,142 animals were declared under certain conditions fit for food; the meat from 6,000 animals was reduced in price as being inferior in value for food. Trichinosis was found in 55 cases, in 33 of which the whole carcass, except the fat, was rejected; in 22 cases the meat was declared to be fit for use under certain restrictions. Tuberculosis was found in 28,917 steers out of 81,000; 10,926 bullocks out of 39,643; 8,124 cows out of 16,360; 1,816 calves over 3 months old out of 165,781; 41,097 pigs out of 932,119; 75 sheep out of 477,370; 1 goat out of 190 examined. Actinomycosis was found in the case of 18,104 examined, 3 sheep.

The department for infectious diseases has its own railway track, five stalls, and three slaughterhouses. Animals are brought there from districts where infectious diseases are prevalent or from the cattle yard when suspected by the police veterinary surgeons of being infectious.

BAMBERG.

REVIEW OF THE VARIOUS GERMAN KILLING METHODS.

Consul Wm. Bardel writes from Bamberg that many efforts are and have been made in Germany to bring about a more humane treatment of dumb animals, and in the direction of securing less cruel methods in the slaughtering of animals for food the many societies for the prevention of cruelties to animals have had material success. Within the last few years gratifying improvements in that respect have been introduced in the slaughterhouses. The consul's review follows:

While in the United States the man who supplies the consumer with meat, as a rule, is simply a dealer, who buys meat at wholesale from the large slaughtering firms in order to retail it among his customers, in this country, with only rare exceptions in very large cities, the party selling the m at r ail is a professional butcher,

by whom, or under whose supervision, the animals furnishing such meat are slaughtered. Therefore, the field for due control, not only of the sanitary condition of the meat, but also of the methods of slaughtering the animals, is a widespread one.

So far as the cities are concerned it is safe to state that there are few in which the strictest surveillance over the methods of slaughtering animals is not sustained. Every city of some importance has a slaughterhouse belonging to the community which is under municipal supervision.

Through the manager of the slaughterhouse in this city I secured an account of a description of all the methods used for killing animals in Germany at the present time.

One of the appliances which is often used for the stunning before killing of young cattle, is the slaughtering mask, also called Bouterolle. This consists of a leather mask, adjusted by a strap to the horns of the animal and hanging down so as to cover the eyes. In the center of this mask is an iron plate with a round opening in which slides, cylinder like, and at a sharp angle to the head of the animal a round hollow "bolt" with sharp edges at the lower end and a thick head at its upper end. Care must be taken that the mask is properly adjusted, so that the bolt rests in the exact center of the animal's forehead. One powerful blow with a wooden hammer on the upper end of the bolt will drive the same through the skin and the bone into the brains of the beast and will cause immediate unconsciousness. The further process of bleeding the animal is the same as has always been in vogue; the animal dies without regaining its senses.

This method, although a great improvement on the former system of stunning the animals by the blow of an ax, still requires strength and skill to make it reliable; therefore a new invention, in which powder replaces the strength of the arm, is preferred, even if it is more expensive. There are two different methods of stunning the animals by means of the explosion of powder. The one is on the same principle as that used with the slaughtering mask, only where, with the latter apparatus, the bolt is driven into the brain by the strength of human arms, in this case powder does the work of driving the stunning blow. No mask is required for this method. A tube about 7 inches long and formed somewhat like a telephone receiver, with the broad end resting on the animal's head, contains the sliding bolt, behind which is a blank cartridge. A slight tap on the knob on the upper end of the tube forces a pointed pin fastened to the knob into the cartridge, which explodes and drives the bolt about 4 inches deep into the animal's brains.

CARTRIDGE AND BALL PROCESS.

The other system is on the same principle; only instead of a bolt being driven into the brain of the beast by the explosion, in this case a cartridge with a pointed bullet discharged out of a tube of about the same size and on the same system will do the work of stunning, if not directly killing the animal. The latter system is perhaps the most effective, but good care must be taken lest the ball which is to penetrate the animal's brains might, by careless handling, diverge from its proper course and do mischief. It has even happened that some of the help in the slaughterhouses were shot by such erring missiles. In the slaughterhouse here the cartridge and ball system is in use for killing cattle of every kind, young and old,

also of horses. I have had an opportunity to witness a killing here, and I must state that there can be no method more effective and more humane than that described.

Smaller beasts, such as calves, sheep, or goats are killed without trouble by a blow on a hollow bolt set on their foreheads. One man holds the apparatus on the proper spot; with calves this is the center of the forehead; with sheep the highest point of the cranium just between both eyes; a second man hits the head of the bolt with a wooden hammer and the bolt will enter the brain, causing instantaneous insensibility. Pigs are preferably killed by the application of the apparatus invented by Kleinschmidt. The apparatus is placed about 1 inch above the eyes in the center of the head, and one tap of the hammer will cause the bolt to penetrate into the brains and the sudden sinking into insensibility of the animal. In the slaughterhouse here pigs are killed by the use of a shooting apparatus on the system of the one applied for stunning cattle, only somewhat smaller.

ADOPTION OF MODERN METHODS.

There are very few slaughtering houses which have not been supplied with all the new inventions for moderating the sufferings of the animals. In smaller towns and in the country, where such establishments do not exist, and where traditional habits are not so easily displaced by new improvements, the old-time system for killing animals for food still prevails. It is here where the societies for the prevention of cruelty to animals still have to bring, and do bring pressure against the inhumane way in which animals are made to suffer on being slaughtered.

While in the larger communities the butcher advocates the application of newer systems for reasons of personal advantage, if not for those of humanity, because with the new system one man can now do the work formerly done by three, also because there is less danger of bodily harm to the help in the new system, in smaller places and in the country these improvements will be made less expeditiously, unless laws are passed which forbid the killing of any animal without previously stunning it. The general opinion prevails that such laws will soon be passed.

SAXONY.

LEADERSHIP IN GOVERNMENT REGULATIONS.

Consul Thomas H. Norton, in a report from Chemnitz, states that Saxony, alone of all the States comprising the German Empire, totally forbids the slaughtering of animals for food by methods which involve the drawing of blood without previously rendering the animals unconscious. After a descriptive account of the methods used, the consul adds:

Throughout Germany there is an active and progressive movement in favor of humane methods of slaughtering animals, and the highly perfected devices are now in extensive use in nearly all the abattoirs. There is no indication of any opposition to the present regulations in the Kingdom, and there are strong possibilities that the example of Saxony will lead in the near future to the incorporation into the laws of the other German states of similar humane provisions for the control of the slaughtering industry.

BARMEN.

FIRST AND SECOND OFFICIAL EXAMINATIONS.

Consul George Eugene Eager has prepared a detailed report on the slaughtering methods at the Prussian city of Barmen, the inspection feature of which follows:

The first examination is made on the hoof in the receiving pen by the directing veterinarian and his two assistants. The veterinarians are required to be graduates of the Ober-Realgymnasium, followed by a four years' course in a high school for veterinarians. After slaughtering a second examination is made of the viscera of each carcass for constitutional diseases. This examination is sufficient for all excepting hogs and pigs, which are given a microscopical examination for trichina and tapeworm. These examinations are made by a corps of inspectors, who must pass an examination on the subject. Both men and women are employed. Each butcher has his mark and numbers, which are stamped in several places on each carcass that belongs to him. Four pieces, about a cubic inch in size, are cut from each carcass and put into zinc boxes bearing corresponding numbers. The law compels the examiners to spend at least twenty minutes on each piece of flesh, and they are limited to from twenty to twenty-five hams or bacon in a day.

If an animal is found to be suffering from a disease that does not make the meat unfit for food it is sold at a reduced price, and it must be marked plainly that it is meat from a diseased animal, but is not unfit for food. If it is found that the meat of an animal is unfit for food, but can be made fit by sterilization, it is cooked for a certain time by steam and afterwards sold for just what it is. Meat that is totally unfit for food is both cooked and baked, and afterwards ground up and disposed of for hen and fish food and fertilizer. Books are kept by each examiner, giving the name of the butcher, the number of the carcass, the exact time when sent for examination, and the results thereof. This inspection is paid for by the butchers themselves.

BREMEN.

CITY ABATTOIR CONSIDERED A MODEL IN EUROPE.

Consul William Thomas Fee states that the abattoir of the German port of Bremen is considered by experts a model institution, and that its managing director is often called to other cities in Germany and other countries to reform their slaughtering houses. His account of the operations at the Bremen abattoir will therefore be of interest:

In Bremen it is compulsory to have all slaughtering done at the city abattoir, either by the butchers themselves, for which purpose a part of the slaughtering house is rented to them, or by butchers who are employed by the city for this purpose, but in every case it must be done under the control of officials of the city abattoir. Each animal which is brought to the city slaughtering house is first carefully inspected by veterinary officials, and after having been admitted by these great care is taken that the animals do not suffer from want of food and water before they are slaughtered. Horses, calves, sheep, goats, and swine are stunned by a blow with a hammer on the center of the forehead before they are cut or stabbed, but exceptions are

made with boars and hogs, which are treated in the same manner as cattle, by being first stunned by Behr's flash cattle killer, invented by a native of Bremen.

The construction of the apparatus is that of a breech-loading ejector pistol. The barrel contains a special kind of conical-shaped bolt, through the core of which a hole is drilled, terminating in two small openings at the sides of the pointed ends. The cartridge is inserted in the breech, which is easily closed by lateral pressure. The apparatus, being ready to fire, is pressed against the animal's forehead and discharged by pulling the trigger, the bolt piercing the skull bone and penetrating into the cranial cavity. Not only the mechanical action of the bolt but also the irruption of gas and the great pressure it exerts on the brain produces immediate insensibility, which is sufficient to allow of painless bleeding. The bolt, which is shot forward by the explosion, is driven back almost into its original position by an ingenious arrangement, and the shape of the bolt, which tapers toward its pointed end, renders it easier to withdraw from the wound than is the case with other kinds of apparatus.

Directly after the shot is fired the cartridge is ejected, and by a single movement of the hand the apparatus is made ready to fire again, a circumstance which considerably enhances its usefulness when slaughtering is done on a large scale. Another advantage possessed by the apparatus, which is not to be underrated, is that it can be employed the whole day without being cleaned. Care must only be taken to see that the openings for the gas to escape are not choked with splinters of bone. This, however, can be done with very little trouble. The particular kind of powder employed is such that the brain acquires no kind of taste from it. The shooting bolt apparatus is a material advance on shooting with a bullet, as it prevents the uncontrolled flight of the projectile and makes it impossible for bystanders to be injured.

ITALY.

SLAUGHTERHOUSE—CLEANLINESS OBSERVED.

Vice-Consul W. Bayard Cutting, jr., of Milan, furnishes the following description of the slaughterhouse there, and of the general cleanliness observed in the conduct of that institution, the Italian methods of killing being with the hammer:

Slaughterhouses in Italy are public institutions. The law prescribes that every town of more than 6,000 inhabitants shall build and maintain a municipal slaughterhouse, where all butchers are compelled to bring their live stock to be killed. The slaughtering itself is done by the individual butchers and their assistants. The conveyance of the cattle, the removal of the carcasses, and the dressing of the meat are likewise the affair of the butchers. The city provides the building, keeps it clean, and furnishes veterinary inspectors to examine and pass upon the carcasses.

The Milan slaughterhouse is situated within the city, and occupies several acres of ground. It consists of a number of long, single-story buildings made of cement and stucco. The buildings consist of either a single large hall, or else a row of small box stalls, about 25 feet wide and either 15 or 30 feet deep. Each stall has a wide double door in front and a wi [illegible] nd. The buildings are arranged in parallel

pairs, each pair being connected by a covered passage, 30 feet wide, whose roof is raised many feet above that of the buildings, being supported by pillars rising from the roofs on either side. The air thus circulates under the roofs of the passages or corridors and over the buildings. The whole slaughterhouse is paved with a kind of cement made of metallic lava mixed with sand—a substance easy to clean and which retains no smell nor spots.

The water supply of the Milan slaughterhouse comes from a special spring, the Fontanile di San Siro, and is distributed to the various buildings and passages. The flow is very abundant. As soon as a stall or hall is abandoned by the butchers it is flooded in a moment, and every trace of slaughtering floated down the gutters at the sides of the passages, then, by special pipes, to the Cascini di San Cristoforo, and into the River Lambro, kilometers away. No praise can be too high for the general cleanliness of the slaughterhouse, about which every suspicion of a bad odor is absent. No blood or refuse remains indoors for any length of time; the stalls are open at both sides; and the big halls are provided with numerous windows, kept constantly open.

LEGHORN.

PRIMITIVE METHOD OF SLAUGHTER.

Consul Ernest A. Man, of Leghorn, furnishes the following report, which shows the primitive method of slaughter practiced in his consular district:

Cattle, sheep, and goats are slaughtered by merely tying their legs together, throwing them down and cutting their throats; the only other method employed being in the killing of hogs, where, it is said, that the manner mentioned does not kill them speedily enough and they are therefore slaughtered by being pierced in the heart with a thrust from a sharp-pointed steel rod about twenty inches long.

BELGIUM.

THE KNIFE CHIEFLY RELIED ON AT ANTWERP.

Consul-General Henry W. Diederich, in a report from Antwerp, has the following account of the Belgian mode of butchering:

The method of slaughtering and the implements used seemed to me rather crude. The Antwerp butchers are not in favor of rendering the animals insensible before bleeding them. They contend that when this is done, bleeding is incomplete, and the meat becomes discolored, giving it an appearance which renders it unsalable. They therefore simply trip up the beast by attaching tackle to its four legs, which, when clumsily done, excites the animal and unnecessarily prolongs the final ordeal. The head is then pulled back so that the throat is well presented to the knife, and with one dexterous stroke cut the throat from ear to ear, clear through the windpipe and the arteries and veins, almost severing the head completely. It is claimed by the abattoir authorities that this method renders the animal instantly insensible, and that it is just as humane as the process which begins by stunning the beast. However, when American cattle are to be slaughtered they are first stupefied by blows dealt with a heavy hammer to the frontal bone, as they are said to

be less tractable and much more difficult to handle. During my visit to the Antwerp abattoir I noticed three slaughterers who are Jewish rabbis and whose occupation is to kill cattle and other animals for the Jewish butchers. These men invariably proceed by cutting the throat, after having sprinkled it with water.

After the carcass has been quartered it is inspected by the city officials, who stamp each quarter with an official mark, and unless this stamp is applied the meat can not be conveyed into the city for sale to the consumers. This law is very stringently enforced. When the meat is found to be diseased it is condemned and cremated, the Government indemnifying the farmer with an amount equal to one-half the value of the animal. If the meat is merely suspected it is sterilized on the premises by being steamed for four and one-half hours and then sold at a very low price.

One of the managers of the abattoir informed me that in ten years' experience with regular shipments of American cattle killed in that institution he remembers only two cases of disease. This is an excellent record, speaking well for the healthy condition of American cattle shipped to this country and for the system of their transportation.

UNITED KINGDOM.

THE POLEAX COMMONLY USED—EXPERIMENTS WITH PATENT GUN.

Consul Albert W. Swalm, of Southampton, sends the following report on improvements planned in the slaughtering of cattle in England:

The Royal Society for the Prevention of Cruelty to Animals in July conducted a number of demonstrations with the new humane killing instrument at a local slaughtering house. The instrument has been produced and patented by the Royal Society for the prevention of needless cruelty in the slaughter of animals for food. All over England, from time immemorial, the poleax has been the officially recognized instrument of death in the slaughter of cattle, and in the hands of experts has been found most efficient, but not all butchers are counted in that class. The demonstrations were very successful, and the new instrument put the cattle to instant death.

The weapon has very much the appearance of the ordinary poleax, except that the striking end is displaced by a small steel barrel with a .45 bore, with a square shaped extension fitted at the end to enable the operator correctly to place the instrument into position. The trigger is worked by a wire running down the wooden shaft, while the shape of the weapon, the revolver barrel being at right angles to the shaft, enables the operator to make an easy and safe approach to the animal. The weapon is very simple in every way, and can be operated successfully by any one.

In all English killing of cattle a process called "pithing" follows immediately after the beast shall have fallen. This is done by the insertion of a wire or small cane through the hole in the skull to the depth of two feet, which is to sever nerve connection, and this .45 caliber bullet afforded ample room for that operation. With the poleax additional blows have been found necessary. The instrument has been tried by a great many butchers in the Kingdom, and has won unanimous approval as the very best thing yet offered for the purpose.

AUSTRIA.

IRON INSTRUMENT USED—BLOOD MADE INTO ALBUMEN.

Consul Joseph I. Brittain states that the following slaughtering methods are used in the Austrian province of Bohemia:

At the slaughterhouse in Prague, Bohemia, cattle are slaughtered by placing the flat end of an iron instrument over the skull of the animal, almost immediately below where the horns form on the animal's head. This instrument has a joint near the middle where a cartridge is placed, the joint in the instrument then being adjusted, the man who slaughters the animal strikes the outer end of the instrument with a mallet, causing the cartridge to penetrate the skull. This method appears to produce almost immediate death, or at least insensibility. The cartridges are composed of lead, zinc, and tin, having a diameter of thirty-eight one-hundredths of an inch. The method now in use is perfectly satisfactory, and has been in use for over eight years. Other methods have been tried, but have not proved satisfactory. After an animal has been shot its throat is immediately cut and the carcass hung up by the hind feet, in order that bleeding may proceed properly.

Animals for use by the orthodox Israelites are slaughtered by cutting the throat with a sharp knife, after the four feet of the animal have been securely tied together. These are never killed by shooting. Calves, sheep, hogs, and goats are slaughtered by turning the animals on their backs and cutting their throats. All the blood from the animals slaughtered is caught in pans and used in the manufacture of albumen.

The Prague slaughterhouse is controlled by six veterinaries, under the supervision of the municipal council. There is a chief veterinary always in charge. The slaughterhouse is clean and well managed.

RUSSIA.

USE OF THE BLOOD—UNUSUAL HOG DRESSING.

Consul John H. Grout, in forwarding a review of the slaughtering operations at the Russian city of Odessa, says that they are similar to those employed elsewhere. Some special points of interest, however, are as follows:

About 720,000 pounds of blood and 180,000 of other refuse is treated each year. The blood is carefully gathered and heated until all liquid is evaporated. The residue is then pressed into cakes and shipped to France, Belgium, and other countries where it is used for fertilizing purposes. A small quantity of blood is refined and bottled for the use of invalids, while more is reduced to powder form and sold to certain individuals who eat it upon bread mixed with butter. Certain portions of refuse are sold to poor persons for food.

A peculiar method of treating swine obtains here, one to be found in practice only in Southern Russia. After the animal has been killed, the carcass is at once taken into an open lot where it is heaped over with straw which is lighted. This burns off the bristles and much of the surface of the skin. It is then scraped, after which the usual process of dressing is carried out. This treatment is observed in all cases where the meat is to be directly eaten. Meat intended for sausage making goes through the usual hot sousing process and

is not scorched. The former method is used, it is said, because it gives a peculiar flavor to the meat, especially to the lard, which many people in this part of the country eat raw. A large fertilizer factory is located within the grounds.

THE NETHERLANDS.

DUTCH GOVERNMENT NOW REQUIRES RESTUNNING OF ANIMALS.

Writing from Rotterdam, Consul-General S. Listoe says that a law has lately been passed by the Netherlands Parliament instituting supervision and control by Government officials at all export slaughterhouses. He adds:

This law went into effect during this summer, and a royal decree was issued providing that at the killing stations the cattle shall be stunned before being killed.

Sheep will be excepted from the regulations regarding stunning, partly on account of the fact that they can easily be placed upon the slaughter bench or table, and for the further reason that the heads of sheep are of such a peculiar shape that these animals can not be successfully stunned.

BRITISH INDIA.

RIGID METHODS OF SLAUGHTERING IN BOMBAY.

Consul E. Haldeman Dennison writes that animals intended for food in Bombay are all slaughtered at Bandora, a suburb, 14 miles distant from the city, under municipal supervision. His description may be taken as indicative of the usual methods in use in India and Southern Asia generally.

The animals—cows, bullocks, sheep, and goats—come from distant points. Buffaloes are bought only from the Bombay milkman after they have discontinued to give milk.

The beef slaughterers are all Mohammedans, owing to the fact that the cow is held sacred by the Hindus, and their religion prohibits them from taking its life. For this reason the trade in beef and mutton is carried on entirely independent of each other, and the arrangements to convey beef and mutton into Bombay, as also its disposal in the Bombay markets, are such as not to bring them into contact.

The animals are slaughtered strictly in accordance with the rules of Mohammed the prophet, which require that the knife be passed two and a half times across the throat of the animal with the repetition of certain lines from the Koran, and this process is called "Halal," which is the only method that Mohammedans will adopt, any other one being highly objectionable to them. Cows, bullocks, and buffaloes are thrown on the flooring by twisting their necks, their four feet are tied together, and their throats cut as described. The time that is occupied between the passing of the knife across the throat and the extinction of life is from seven to twelve minutes. The blade of the knife used for this purpose is 17 inches long and 1¾ inches broad.

The blade used for slaughtering sheep and goats is 10 inches long and 1½ inches broad. The method in respect to these animals is the same as for the larger ones, but the length of time required to die is

much less—from three to four and half minutes only. Blood from the abattoirs is removed, boiled, and dried in the sun, and afterwards packed in gunny bags for export. All this is done by persons who buy the right to collect the blood.

INSPECTION AND HANDLING.

All the animals that are brought for slaughter are subjected to a rigid inspection as to their fitness for human consumption. There are two market days each week for sheep and goats called "Mandi." The minimum number of these animals brought in each market day is about 5,000 and the maximum 8,000. The lowest number of these slaughtered each day is 1,600 and the highest 2,500. Sunday is the market day for cows and bullocks, but inspection of these animals does not take place until Tuesday morning, forty-eight hours after arrival. The highest number received on this day is 1,100 and the lowest 700. The daily slaughter averages from 100 to 140. From 8 to 14 buffaloes are slaughtered daily. All the animals that come to the abattoir are fed and watered by the municipality, but at the expense of the owners. Dealers in skins and hides make their bargains when the animals are alive.

The slaughterhouses are supervised by a couple of European officers with a native staff, and all are provided with quarters in the compound. Butchers and others carrying on business within the slaughterhouse limits are licensed by the municipality.

CHINA.

COMMON AX USED BY NATIVES—ENGLISH AND FILIPINO PLANS.

Consul-General Amos P. Wilder, of Hongkong, sends the following report on the butchering methods at that port of southern China:

All the slaughtering of cattle is done at the two animal depots, which are under sharp Colonial supervision. About 60 cattle a day are killed. By conference with the senior inspector, an Englishman, it appears that the work is done by Chinese employees who, in the main, use the common ax, with which they are familiar, although the inspector believes in the poleax in other hands. For water buffalo, whose skull is very large and strong, a rifle is used. The inspector reports that a humane society in England sent out a special rifle, fitted with a head band, to insure accuracy in lodging the bullet in the brain of the animal. It proved inadequate in the case of water buffalo. I learn that elsewhere the plan has been tried of fitting a metal tube over the forehead of the animal through which a projectile is forced accurately into the brain by an ax in the hands of the operator. Of all methods of slaughter the inspector believes that a rifle shot accurately placed in the forehead or behind the ear is the most effective and humane. He is of the opinion that when the skull is crushed by any method, communication with the brain being broken, the animal suffers no pain. Jews and followers of certain Indian religions are allowed to kill cattle in their own way, as a rule by bleeding, without a preliminary blow to effect senselessness.

A Filipino butcher of the neighboring Portuguese colony of Macao has attained reputation in the craft by the skillful use of a two-

edged spear-shaped knife or dagger, with which he at a single stroke produces a fatal cut between vertebræ near the neck. This dagger carries a wooden handle, has a total length of perhaps 11 inches, with a cavity at the end of the wooden handle for the thumb to secure a greater hold. He gave an exhibition to officials interested in Hongkong some time ago; and I am told eight animals being placed in a row, by successive accurate and powerful back-handed thrusts, were killed in something like one and a half minutes.

JAPAN.

MODERN ABATTOIRS IN USE—KILLING METHOD.

Consul-General Henry B. Miller sends from Yokohama the following brief description of the Japanese procedure in the slaughtering of animals:

The new law became operative on July 1, 1906, with regulations issued by the Department of Home Affairs, and the establishment or closing of abattoirs must first be approved by the local governor. The authorities designate places where slaughtering will be permitted under the inspection of veterinary surgeons and police supervision, and no animals suffering from tuberculosis, or other contagious disease or malady which the inspector may consider injurious, may be slaughtered for food. Slaughtering in places other than designated abattoirs, or animals infected with disease, is liable to penalty not exceeding 300 yen, or $149.40. The law is applicable only to cattle, horses, sheep and goats, and pigs.

The methods of killing in the abattoirs are as follows: Cattle and horses, by striking the forehead with a hammer; sheep and goats, by cutting the carotid artery; pigs, by stabbing the heart. The number of abattoirs in Japan increased from 1,521 in 1900 to 2,118 in 1905.

AGRICULTURE.

FARM IMPLEMENTS IN TASMANIA.

MUCH AMERICAN TRADE LOST BECAUSE PATTERNS DO NOT SUIT.

In reporting that there should be a good market in Tasmania for American cultivating implements, Consul Henry D. Baker, of Hobart, goes into the following details:

In these implements there is already a fair trade, and in certain lines, such as scufflers and other market-garden tools, the makers from the United States have the bulk of the trade. In other and more important lines, such as plows, cultivators, and harrows, there is a chance to largely increase the business. As a fact, the trade with the United States in many classes of implements is smaller now than it was ten years ago. The reason for this seems to be that the patterns used in the United States do not suit the requirements of the Tasmanian farmer.

CULTIVATORS AND PLOWS.

In regard to cultivators, few makers in the United States make a spring-toothed machine on high wheels. The spring-tooth harrow with its low wheels and frame close to the ground is not entirely suitable, as the Tasmania farmers are cultivating their land all through the winter months when there are often only three fine days in a week.

Any low-framed cultivator will clog up in stubble land, and a large proportion of the farmers use the high-framed machines, which are mostly imported from Canada. These Canadian machines, including the duty, cost about $60 landed in Tasmania, and retail at from $70 to $80, according to the terms of settlement.

In plows the American patterns are also said to be unsuitable. They have had a fair trial, as some ten years ago several of the largest importers obtained shipments from some of the leading makers in the United States, one Indiana firm supplying as many as 3,000 plows in a single season. The season they were imported was very dry and they sold readily. In the normal Tasmanian winter the American patterns are not liked, as the short breast and wide share cause them to clog up in the clay soils. The market is almost entirely supplied by Canadian makers, who supply a plow made from patterns brought over to Canada by the Scotch immigrants. Several hundreds of these are imported each year, not only by the Tasmanian business firms, but also by large firms whose chief business is in goods made in their own factories in the United States.

Not only are the American makers losing trade in plows, but in harvesting machinery, which, up to twenty years ago, was entirely in the hands of makers from the United States.

A large Canadian firm, with its own manager and officers in Melbourne, now does, perhaps, half the Tasmanian trade. The Cana-

dian machines being built on more British lines, naturally attract the custom of the farmers, nearly all of whom are either immigrants from Great Britain or sons of immigrants.

Manufacturers in the United States do not seem to have made themselves acquainted with Tasmanian requirements. For instance, when the Hobart exhibition was opened an enterprising firm in the United States sent out a consignment of plows. Nearly all of these were riding plows. As Tasmanian winters are cold, and much of the land contains stones or roots, riding plows are most unsuitable, particularly for British-trained farmers. Further, many manufacturers are constantly sending traders' catalogues of corn-planting machines, corn harvesters, and shredders. As an acre of corn has never ripened in Tasmania, the climate being unsuitable, the sending of this literature is wasted energy.

It may be mentioned that Canadian makers have imported plows from Tasmania for inspection and have made up and exported to this State plows made up in the same pattern. It would certainly pay makers in the United States to do the same.

RUBBER INDUSTRY.

BRAZIL.

EFFECTS OF THE CRISIS IN THE UNITED STATES ON PARA RUBBER.

The following report concerning the exports of rubber from the Para consular district, and the serious losses sustained from the fall in prices, is furnished by Consul George H. Pickerell, of Para:

Statistics covering the exports of rubber from this consular district for the year ended June 30, 1908, are now available. The interesting part, and the one not shown, is the effect produced upon this market by the crisis in the United States.

During the year the United States took 2,193.75 metric tons less than was taken by Europe and 2,000 tons less than the direct American purchases in the previous fiscal year. Financial conditions did not permit American importers to buy direct when prices were at their lowest and they are now and have been for some time getting part of their supplies through Europe. The effect of the low prices have been even more startling. It is said that the State of Para alone will suffer a loss in revenue for the last fiscal year of $2,000,000 and individual houses are now, and will be for some time to come, crippled by the tremendous decline. Interest rates run from 12 to 24 per cent per annum, with a commission added. Of course the higher percentage is exceptional, although it is said to be easily obtained and with fairly good securities to back it up.

EXPORTS OF PARA RUBBER.

In connection with the present rubber crisis the merchants and buyers generally are more disposed to look favorably upon newcomers who are desirous of opening up business connections, and especially those who are in a position to sell more cheaply. Heretofore it has been difficult to secure attention, as everybody was doing well and no one cared to entertain new propositions. Merchants are now more approachable, and this extends to those interested in the development of rubber properties. All realize that something must be done to meet

present low conditions, and anyone that can produce means to that end will be sure of an opportunity to talk and show his goods.

The following statement shows the quantity of rubber exported from the consular district of Para during the year ended June 30, 1908, in kilos of 2.2 pounds:

Description.	To the United States.	To Europe.	Total.
	Kilos.	*Kilos.*	*Kilos.*
Fine	7,086,966	11,158,327	18,245,293
Medium	1,501,987	1,890,246	3,392,233
Coarse	4,414,167	3,452,788	7,866,955
Caucho	1,655,160	5,263,165	6,918,325
Total	14,658,280	21,764,526	36,422,806

The following statement shows the exports of rubber from the several ports in the Para district to the United States and Europe according to ports of destination for the same period:

From and to.	Fine.	Medium.	Coarse.	Caucho.	Total.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
To New York from—					
Iquitos	23,292	536	14,544	4,823	43,195
Manaos	3,775,718	881,259	1,169,816	1,130,894	6,957,687
Para	3,287,956	620,192	3,229,807	519,443	7,657,398
Total	7,086,966	1,501,987	4,414,167	1,655,160	14,658,280
To Liverpool from—					
Iquitos	338,601	424,558	274,577	349,668	1,387,404
Manaos	3,171,152	749,231	864,869	2,473,389	7,258,641
Itacoatiara	31,688	1,846	22,733	7,766	64,033
Para	4,702,196	416,784	1,671,021	1,351,952	8,141,953
Total	8,243,637	1,592,419	2,833,200	4,182,775	16,852,031
To Hamburg from—					
Iquitos	52,280	7,288	16,803	36,025	112,396
Manaos	535,700	41,966	134,942	251,134	963,742
Itacoatiara	1,777	150	167	220	2,314
Para	294,806	19,188	89,651	37,094	440,739
Total	884,563	68,592	241,563	324,473	1,519,191
To Havre from—					
Iquitos	270,971	98,001	133,315	450,611	952,898
Manaos	1,452,197	116,949	152,350	277,212	1,998,708
Itacoatiara	48,422	1,775	28,191	11,262	89,650
Para	244,977	11,690	62,457	16,492	335,616
Total	2,016,567	228,415	376,313	755,577	3,376,872
To Bremen	5,400	820	1,362	340	7,922
To Antwerp	8,160	.....	350	.....	8,510
Grand total	18,245,293	3,392,233	7,866,955	6,918,325	36,422,806

The stock of rubber left on hand on June 30, 1908, was 43,819.4 metric tons.

PRESENT DEPRESSED CONDITIONS.

INCREASED WORKING EXPENSES AND HIGH TAX DESTROY PROFITS.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following concerning the present condition of the rubber industry of Brazil and the outlook therefor:

The actual state of the industry in the country is indicated by the fact, related in the annual report of the minister of finance, that the value of the exports of seringa rubber during the first three months of 1907 was $25,943,547, while the value of the exports of this variety

during the first three months of 1908 was $16,443,566—a difference of $9,499,981 on that variety in a single quarter. While prices have recovered somewhat from the extremely low level which they reached during the beginning of the year it is generally accepted as an established fact that they will not reach their former level for an indefinite period. This fact is of the most serious import to rubber exporters in Brazil, for the expense of gathering the gum is constantly increasing.

Aside from the general increase in expenses, due to the necessity of working country heretofore not included in the range of operations, the price of labor in the rubber country has augmented until it is impossible for rubber collectors to be found at prices which dealers can pay in many of the districts concerned in rubber work. This state of things is due mostly to the fact that the inauguration and prosecution of industrial undertakings like the Para docks, the Madeira and Marmore railway, and various smaller undertakings has offered men who formerly collected gum more and better support than the rubber business can afford. There are other conditions which contribute to the state of the labor market and the rubber industry, so that on the whole rubber is costing more than it has in the past, and it is likely to cost more in the future. The disposition of the selling market to sag at the least possible excuse and the increasing supply of rubber from plantation sources render the position of the Brazilian industry precarious, and the governmental authorities are making every effort possible to induce the people interested in rubber to give their attention to the growing of other and varied crops.

The tax of 22 per cent on the official valuation has actually shut off all profit and represented an actual loss to owners and shippers at times during the year. The State governments derive most of their living income from rubber, and the result of the situation has been great difficulty on the part of the States and the business to live. not to say to prosper.

BRITISH NORTH BORNEO.

PARA RUBBER TREES IN THE GOVERNMENT GARDEN AT TENOM.

Consul Lester Maynard, of Sandakan, transmits the following information, prepared by the manager of the Sapong estate, concerning the results of the cultivation of rubber trees in British North Borneo:

The yield of 1¾ pounds of rubber per tree in twelve months' tapping of trees between 5 and 6½ years old (at the termination of these experiments) is extremely satisfactory, and so is the work of the tapping cooly, who took on an average 16 cuts to remove 1 inch of bark. Most of this tapping was done with an ordinary farrier's knife and some with a "safety" tapping knife. both simple instruments devoid of adjusting apparatus.

The trees were tapped every alternate day for one year without any rest, except on such days as rain fell or the tapper was sick; they seem none the worse for this treatment and have yielded 20,849 seeds, as against 11,591 the previous year.

Seed is harvested at Tenom from August to November, and, if the weather is favorable, again in January and February.

In connection with the question of seed I might here mention as a matter of interest that a tree on the Sapong estate flowered when just 20 months old.

Wounds from the Y tapping seem to heal much more quickly and evenly than those from "half herringbone," probably the extra irritation from the three cuts of the latter prevented the regular healing of the wounds.

There is practically no difference in yield per tree by either method of tapping, but the half-herringbone system has required the excision of 189 square inches of cortex for each pound of dry rubber obtained, whereas the Y system requires only the excision of 147 square inches to obtain the same amount.

This year's experiment will be the comparison of 50 trees tapped on the Y system against 50 trees tapped on the half-herringbone system.

Between December, 1900, and July, 1902, 155 Para rubber trees were planted at the Government experimental gardens at Tenom. The plants have been uncared for and allowed to grow as they liked, with the result that about one-fourth of them have two or three stems, which lowers considerably the average girth, as in these calculations each separate stem is regarded as a separate tree; even then we get an average girth at 5 to 6½ years old of 21 inches at 3 feet from the ground. During the twelve months ended July 31, 1907, the average in the girth was 4¾ inches, while the Singapore Botanic Garden records an average of only 3½ inches.

JAPAN.

ANGLO-JAPANESE RUBBER ENTERPRISES STARTED.

Vice-Consul Walter Gassett, of Kobe, furnishes the following information concerning the establishment of rubber factories in Japan, as given in a local journal:

A new rubber company has been floated, with a capital of $37,500, to which Japanese have contributed as well as English. The factory is in Hiogo (Kobe), and they expect to commence business in September next. The plant will chiefly manufacture rubber tubes and rubber articles for medical apparatus, and the sole agents in Japan of an English company will undertake the sale of the company's products. The British vice-manager has already arrived in Japan from London, accompanied by an expert, and is now at the company's factory in Hiogo, where a portion of the machinery has also arrived. The rest is expected to arrive shortly with a chief operative. The company will obtain from the English company technical secrets of rubber manufacture and be supplied by the same with circulating capital and the entire sets of machinery, as well as experts and chief operatives, so that a small capital will be sufficient for the inauguration of business.

A new rubber tire company in Osaka, with a capital of $25,000 is also reported to be on the verge of formation. In the event of formation, according to the local journal, the import of bicycles and automobiles is likely to be discussed, as the company's articles will be obtainable at a cheaper price as a result of the saving of the 40 per cent import duty.

FEDERATED MALAY STATES.

LARGE INCREASE IN THE EXPORTS OF RUBBER.

Vice-Consul General George E. Chamberlin, of Singapore, furnishes the following statistics concerning the exports of rubber from the Federated Malay States for the first six months of 1907 and 1908:

State.	1907.	1908.	Increase.
	Pounds.	*Pounds.*	*Pounds.*
Perak	98,591	189,633	91,042
Selangor	554,324	866,567	312,243
Negri Sembilan	208,610	325,958	117,348
Total	861,525	1,382,158	520,633

EXTERMINATING LOCUSTS.

DESTROYING THE RAVAGING CICADA IN YUCATAN.

Vice-Consul R. A. Williams sends from Yucatan the following description of the methods pursued by the Mexican authorities of Yucatan to destroy the swarms of seventeen-year locusts which were infesting that region:

Corn is not only the principal food of the inhabitants of the peninsula of Yucatan, but its culture constitutes one of the chief sources of revenue of many of them. In fact, the wealth of the whole peninsula is derived from agriculture, and naturally any agent which threatens the destruction of crops is more energetically combated than would be the case in a district not wholly dependent upon successful harvests. Such has been the case in this State for many months, owing to the swarms of so-called seventeen-year locusts (Cicada septendecim) which have infested this region, devouring all vegetable growth which they encountered and spreading consternation among the planters.

The official organ of the Chamber of Agriculture of this State reports on a successfully demonstrated process of extermination of these pests which it recommends to all planters. It declares that by exercising ordinary care a whole swarm of locusts may be destroyed within a few hours without any danger whatever to cattle. The experiment to which it alludes was carried out in the following manner:

The swarm of locusts destroyed in this instance measured about 500 yards in length by 200 yards in breadth. They made their way in closed files, and had already devoured all that they found in their way. One pound of arsenate of soda was found sufficient to destroy the swarm entirely. The poison was mixed with four pounds of brown sugar (panola) and this dissolved in a large vessel with hot water, cold water being immediately added in a quantity sufficient to make forty-five pounds of solution. Six bunches of green barley (any kind of grass, straw, or grain upon which the locust feeds may be used), weighing about 36 pounds, were soaked in the arsenic solution for from fifteen to twenty minutes, so that the fodder was thoroughly saturated.

The advance of the locusts was checked somewhat by flaunting cloths, flags, etc., in front of the van. At the same time the poison was distributed in small quantities among the pests, in rows 10 feet apart, a small portion being cast about every 4 feet in the rows. By this means the poison was spread among the greater part of the swarm.

The first effects of the poison were to restrain the advance, it being no longer necessary to resort to the original tactics, i. e., the flaunting of flags, etc. The locusts attacked the poisoned fodder voraciously, each spike of grain killing hundreds. Of those that ate, the few that, the following morning, had not succumbed had the appearance of being intoxicated and were quickly disposed of by beating with sprigs dipped into what remained (about two-thirds) of the solution.

Care was taken to gather the rest of the poisoned barley which the locusts had failed to devour. On the following day about one-third of the original flock had succumbed to the poison. The survivors fed upon the dead ones, and from this on their destruction was effected automatically, there being no further necessity for spreading the poison. In about four days the elimination of this great swarm of locusts was complete.

It is worthy of note that the birds which fed upon the poisoned locusts showed no signs of having been affected. The work of destruction was simple, and the only material cost involved was the work of four persons for two hours. From the moment the foremost of the swarm began to take the poison the advance of the entire swarm was checked, and the unaffected showed no disposition to advance farther.

NEW CANADIAN INDUSTRY.

ARTIFICIAL FERTILIZER WHOSE VALUE HAS ALREADY BEEN PROVEN.

Consul W. H. H. Webster, of Niagara Falls, Ontario, makes the following report on the establishment of a factory for the manufacture of cyanamide and lime nitrogen:

One of the many industries in this growing city is the manufacture of cyanamide. Hundreds of men are now employed in erecting the first permanent building, the contract for which was awarded to a firm in New York City. The structure now being erected measures 150 by 150 feet, being 66 feet in the highest part. Three other buildings will be built, each of which will be 100 feet square.

Coke and lime are used in the manufacture of cyanamide by means of an electric furnace, the resulting compound being in turn pulverized and combined in a second electric furnace with nitrogen from the air secured by a liquid-air process. The materials thus obtained contains 20 per cent in weight of nitrogen, the balance being the coke and lime compound which serves to bind the nitrogen. This compound is calcium cyanamide or lime nitrogen, and when sown in the soil it decomposes and dissolves in contact with the soil moisture, is then absorbed through the roots of the plants and becomes a valuable constituent. Three years of actual use upon farms in Europe has proved the value of this substance in connection with the wheat, corn, oats, barley, rye, rice, tobacco, and other crops. Some crops have been doubled by its use.

The present plant, which is of 5,000 tons capacity, must be regarded as an introduction of this new industry. Plans are already in preparation for the establishment of a plant of 20,000 tons capacity.

BEFRI SEED.

FURTHER INFORMATION ON A NUTRITIOUS CEREAL OF INDIA.

The publication of the brief report by Consul-General William H. Michael, of Calcutta, on befri seed in the Daily Consular and Trade Reports, and in many newspapers of the United States, and also in England, caused several persons to write to him for additional information respecting the new discovery. After correspondence with the chief medical officer of Baroda States, he gives the following information on the subject:

Befri plant is an annual, and belongs to the natural order Leguminosae. Its name is Indigofera Glandulosa. It generally grows in black soil, and does not require much water. Befri seed is contained in very small pods, which are gathered after the rainy season is over.

Befri contains 21.13 per cent of albuminoids, whereas their proportions in Indian wheat and oatmeal are respectively 13.5 and 16. In other words, befri is 56 per cent more nutritious than wheat and 32 per cent more so than oatmeal. It is ground, mixed with flour of bajri or other less nutritious grains or grass seeds, and made into breads, bhedki, etc. [Samples of befri seed furnished by the consul-general have been sent to the Department of Agriculture.]

STYRAX IN ASIA MINOR.

PRODUCTION OF GUM USED FOR FLAVORING COMESTIBLES.

Consul-General Ernest L. Harris makes the following report on the production of styrax in Asia Minor, from which gum benzoin and incense is derived:

Styrax is produced in considerable quantities on the mainland of Asia Minor just opposite the island of Rhodes. It is estimated that the annual production is about 220,000 pounds, and is exported chiefly to Trieste, Odessa, Hamburg, Marseille, Paris, and New York. Before shipment it is sent to the islands of Rhodes and Samos, where it is cleaned from all impurities. Styrax trees also grow in other parts of Asia Minor, but the distance from the seacoast and the cost of transportation militate against a healthy development of the trade. When it is impossible to get Turkish styrax the merchants of Europe resort to the product of India and Siam.

In 1907 the selling price varied from $30 to $32 per 220 pounds. It is believed that higher prices will rule this year, owing to the increased wages which are being paid to laborers on account of the higher food prices now prevailing.

PATENT HORSEBREAD.

AMSTERDAM TABLOID ATTRACTING ATTENTION.

Consul Henry H. Morgan, of Amsterdam, reports upon a tabloid horsebread which is attracting much attention in Europe and for which many high qualities are claimed by the patentee, from whom the consul has received the following information:

Its intrinsic worth in phosphoric acid and chalk, in vegetable form, is more than double that contained in ordinary oats and hay. The following is the daily feed of a horse in Holland: Oats, 13 pounds; hay, 6.6 pounds; straw, 8.8 pounds; total, 28.4 pounds. The nutritive substances contained in the foregoing are as follows: Albumen, 1.52 pounds; fat, 0.64 pound; starch flour, 11.46 pounds; phosphoric acid and chalk, 0.26 pound. The same nutritive substances contained in 24 pounds of horsebread are as follows: Albumen, 2.05 pounds; fat, 0.73 pound; starch flour, 11.86 pounds; prosphoric acid and chalk, 0.57 pound.

GINSENG MONOPOLY.

KOREA PROMULGATES NEW LAW.

The ginseng monopoly law has been promulgated in the Korean Official Gazette. According to the Seoul Press, it reserves for the Government the exclusive right in the preparation of ginseng, but the cultivation of the plant and sale or exportation of prepared ginseng may be undertaken by private individuals, provided that they, in accordance with the stated procedure, secure official sanction for so doing. The Government will purchase plants grown by private individuals at a rate previously announced.

TEXTILES.

BRAZILIAN COTTON IMPORTS.

LOCAL TEXTILE MILLS CUTTING OFF CERTAIN LINES OF IMPORTS.

Consul-General George E. Anderson, of Rio de Janeiro, discussing the cotton market of Brazil, calls the attention of American exporters to certain phases of European competition and to local conditions which must be met if a satisfactory trade is to be maintained. He says:

The figures covering the imports of cotton materials and cotton goods in Brazil in 1907 as compared with the year previous offer a slight encouragement to the exporters of American cotton goods. Three of the principal items in the returns show gains in imports from the United States—gains in imports of piece goods dyed, piece goods unenumerated, and manufactures of cotton unenumerated. At the same time the increased imports from the United States in these items were less proportionately than the increased imports of such items from all countries, so that, as far as the proportional trade of the United States is concerned, there has been practically no increase, but rather a continuation of that steady decrease which has been noted for a number of years.

While the imports of cotton goods amounted to a total of $29,907,129 in 1907 as compared with a total of $18,878,046 in 1906, there was a loss of trade in one or two lines which heretofore have been supplied almost exclusively from abroad. This was the case with the items of hosiery and bleached piece goods. In each of these items the change in imports may be considered as permanent. The development of Brazilian cotton mills has been such as to result in the continued decline of imports of the common grades of bleached cloths, and the establishing of several hosiery mills in connection with other cotton works has supplied the Brazilian market with homemade goods for the cheaper and more ordinary grades. This decrease in the imports of hosiery has hurt all countries concerned, but especially Germany. The imports of hosiery from Germany in 1907 were $239,220, as compared with $304,743 the year before; from France the imports in 1907 were $61,205, as compared with $66,453 the year before, while from all other countries the imports in 1907 were $16,558, as compared with $19,748 the year before—a total of $316,983 in 1907, as compared with $390,944 in 1906.

There was a notable increase in goods rated as tapestry, oilcloths, and carpets, the total increasing from $103,908 to $193,839, or about 90 per cent. The increase in such goods from Germany was from $21,814 to $72,287, Great Britain from $55,435 to $78,591, and France from $16,063 to $21,707. These increases were very largely curtains

and oilcloths of common use for kitchen purposes. In the imports of lace, insertions, and the like there was an increase of about 35 per cent over the previous year. The trade last year amounted to $1,388,154, of which Great Britain had 40 per cent, Germany 37 per cent, Switzerland 9.5 per cent, France 8 per cent, and the rest scattered. In wearing apparel of cotton Austria-Hungary continues to have the lead, furnishing about 35 per cent of the $1,207,367 imported last year. Portugal furnishes about 23 per cent, France 17.5 per cent, and Germany about 14.5 per cent. In all the above-named classes of imports the United States does not furnish enough of the imports to be given separate classification in the returns. In none of such items does there seem to be any trade based on regular orders or with any promise of increase under present conditions.

CHIEF COTTON IMPORTS—UNITED STATES LOSING GROUND.

In the line of cotton yarns and raw materials the United States in 1907 made a much better record than it did in 1906, although it failed to equal its sales in 1905. The situation is indicated in the following table:

Materials.	Total imports 1907.	United States.		
		1907.	1906.	1905.
Yarn for weaving	$650,518	$7,200	$2,013	$4,467
Sewing thread	1,875,018	7,202	3,393	5,404
Yarn, twisted and braided	10,937	798	372	9,952
Cotton, washed, combed, and waste	124,154	3,864	398 3,369	5,455
Total	2,660,627	19,064	9,545	25,278

The total imports of such goods in 1907, $2,660,627, compared with the total of $2,251,777 in 1906 and $2,149,188 in 1905, is an increase of 24 per cent in two years, the United States losing substantially 24 per cent.

In the principal items of Brazilian cotton imports the steady loss shown by the United States heretofore is being continued. The figures for 1907 and for the previous two years are as follows:

Articles.	Total imports 1907.	United States.		
		1907.	1906.	1905.
Piece goods, bleached	$1,932,454	$46,426	$51,474	$76,756
Piece goods, unbleached	147,314	3,578	5,433	19,254
Piece goods, print	3,037,824	109,141	174,926	356,329
Piece goods, dyed	3,840,506	192,738	170,387	238,571
Piece goods not specified	5,509,697	163,759	172,547	197,484
Manufactures not specified	2,672,364	176,072	137,454	105,699
Total	17,140,159	691,714	712,221	994,093

In two years, therefore, the United States has lost over $300,000 of trade in these goods in which it formerly did a very large business. In the same time the imports of these items into Brazil have increased from $16,488,379 to $17,140,159. There is no other satisfactory reason for this decrease in American trade, while the trade of other nations is increasing, than the refusal of American manufacturers to produce goods suited to this market and to sell such goods upon

terms and conditions which their competitors are willing to grant. There are some lines of goods in which American manufacturers have a positive advantage in this market. But the trade in such goods is not being looked after, while the trade of American competitors is being carefully fostered. Unless American exporters will look after their interests here more effectively they will lose that portion of the Brazilian imports which they now have.

IMPORTANCE OF BRAZILIAN COTTON MILLS.

The operation of Brazil's tariff in favor of Brazilian cotton factories continues to be the principal feature of the cotton trade in the Republic. The extension of Brazilian cotton factories is increasing rapidly, and in line with such extension there is a corresponding decrease in importation of certain lines of goods. Unbleached piece goods are almost altogether confined to goods of Brazilian manufacture, the goods of this class now being imported going almost exclusively to portions of the country not served by local mills and to which freight rates from Brazilian points are as great or greater than from Great Britain. Whereas a year ago Brazilian manufacture was confined largely to imitations of foreign weaves, there is a disposition now to inaugurate characteristic Brazilian styles, clinging to imitations of foreign weaves only where it is necessary to retain trade.

The local cotton mills are not only the most prosperous portion of the industrial life of the Republic, but they compose so large a portion of its industries that out of a total of $162,818,700 invested in industrial enterprises of all sorts $59,682,900 is devoted to cotton manufacturing. Cotton manufacturing is dominating Brazil's entire industrial life. It is supplying to a great extent the needs of the people of the country in standard goods and is likely to supply such needs more perfectly in the course of the next year when present changes in many of the mills are completed.

At the same time the imports of cotton manufactures have increased immensely and are likely to increase as the consuming power of the people becomes greater. The trade is changing, but cotton will continue to be the great single item in Brazil's import trade, averaging nearly one-tenth of the country's total imports.

AMERICAN EXPORTERS LACK IN METHOD.

The sale of cotton manufactures of the United States in Brazil depends very largely upon the disposition of American manufacturers to meet the requirements of the market. The course of the Brazilian imports of American cotton goods in the past two years is illustrative of the fact that when the American manufacturer is willing to manufacture goods of required styles to conform to Brazilian credit terms, and to give some attention to direct selling of his goods, he can secure a fair share of the business.

The possibilities of American trade in this market are indicated in the fact that when trade in American cottons in other portions of the world or at home grows slack there is an increase in the American exports to Brazil. American exporters are at a disadvantage in

Brazil in not having direct representation. American cotton goods are popular in Brazil. In some lines they have long had the preference of the people and are standard in their respective classes. But by reason of a failure to look after the business, to meet the requirements of the tariff laws, and to follow up advantages once gained, the trade is precarious and its extension is doubtful. That there was a notable recovery last year over the previous year in some lines of cotton imports is demonstration enough that there is more business to be had here if it is looked after and competition is met effectively.

It is difficult to see why American prints do not sell here. American-dyed cloths of similar grade sell well enough when they can be brought here at a price corresponding to those asked for the English cloths of the same sort, but American print manufacturers have less of a market here than ever, and the downward course of their sales has had no break in a number of years. The only satisfactory reason for this state of things is that given by a Brazilian importer to the effect that American exporters will not manufacture goods suited to Brazilian tastes and refuses to conform to the requirements of the trade in other respects. Great Britain still has the lead in this trade, but Germany is making every possible effort to secure it, and there is no difficulty on the part of importers here in securing from German manufacturers every possible attention to the needs of the market.

BRITISH METHODS—POINTS FOR AMERICAN EXPORTERS.

British manufacturers have built up trade in prints by years of assiduous attention to every phase of the business. Demand for such goods has become steady, the trade is a matter of habit with a large element of the population, and it is practically impossible for this trade to be interfered with by outsiders. It is probable, however, that in the course of time Brazilian mills will reach after this trade and affect it seriously as they have reached after American trade in the lines of overall goods, shirtings, and denims and affected it adversely. The principal advantage of British exporters in this field is in having men on the ground who understand what classes of goods in each particular line can come in at the minimum duty, and other special points. The increases noted in imports of American goods consist largely of shirtings, which have been found very attractive here. These goods have been sold largely in the northern ports, and almost always upon sheer merit as novelties. While most of them are really prints they do not satisfy the technical description of prints obtaining in Brazil and come in as not classified. This trade is satisfactory as far as it goes, but it is only a matter of a short time until competitors of American manufacturers will make similar goods.

While there may be more or less temporary betterment in the trade in American cotton goods in Brazil from time to time it should be realized that there will be no satisfactory trade here without better sales organization. The present haphazard way of doing business will not meet competition. No other plan than that of having a technical cotton-sale expert on the ground will answer. With proper sales organization there is no reason why there should not be an increasing market here in spite of the developing Brazilian industry.

CAUCASUS COCOON TRADE.

A GROWING INDUSTRY OF SOUTHERN RUSSIA AND PERSIA.

Consul W. W. Masterson, writing from Batoum, gives the following account of the expanding silk-producing industry in the Trans-Caucasus:

During the summer months the largest item of export from Batoum, both in bulk and value, is that of cocoons, and practically all of it goes to Marseille, France.

Last year there were 2,878,000 pounds of cocoons shipped at a value of $2,033,561, or almost a dollar a pound. The cocoon industry has developed enormously within the past few years, in fact it has only been within the past few years that cocoons have been exported, and now the cocoons shipped from this port furnish a considerable proportion of the silk that is woven in France.

The cocoons are produced in the provinces of Kutais, Nukha, Schusha, and Agdash of the Caucasus, in Transcaspia, and in Persia. A considerable portion of that produced in the provinces of Nukha, Schusha, and Agdash is spun in the provinces where it is grown, the output being shipped to Moscow for weaving, but practically all of the cocoons produced in the province of Kutais and in the Transcaspian country and from Persia is exported.

The cocoon eggs or seed most in demand here are of the Bagdad variety, coming from Brussa in Turkey, the balance of the seed imported coming from Italy and France, and but few of the seed of the domestic silk worm being used, as it has been found that the foreign eggs are much better.

The cocoons are packed in rather large bales of some seven or eight feet in length and each bale weighs about 100 pounds. The price varies with the seasons, and is governed very much by the demand from the manufacturing centers. Last year was an unusually good year for the trade, and cocoons sold at 21 and 22 rubles (ruble = 51.5 cents) per pood (36 pounds). This year, owing to the prevailing hard times throughout Europe, and the consequent lessened demand for silk, the prices for cocoons have fallen to 16 and 17 rubles per pood.

TURKISH FEZ TRADE.

MILLIONS OF OTTOMAN HEAD GEAR SOLD ANNUALLY.

Consul-General Ernest L. Harris, writing from Smyrna, gives the following facts concerning the Ottoman fez trade:

The trade in fezes naturally occupies an important place in every part of the Turkish Empire, but the greatest distributing and consuming center is Constantinople. A Vienna syndicate controls the output and prices. The average retail price of a fez is 50 cents.

In order to estimate the total fez trade in Turkey one may reckon about 1½ every year to every male Ottoman subject. It is true that in the towns most of the men belonging to the better classes buy as many as 3 or 4 fezes each year, but this is offset, on the other hand, by many in the country districts who do not buy more than this number during a whole lifetime.

Ninety per cent of the total fezes worn in Smyrna are manufactured in Vienna and imported from that city. The remaining 10 per cent

is imported from other towns in Austria and from Germany, the latter country supplying, as I have been informed, a rather cheap quality.

There is a movement now on foot to establish fez factories in Turkey in order to render the trade less dependent upon Austria. Several factories have already been established and from all reports are doing well. The fezes placed on the market by these home factories are of an inferior quality to the Austrian make, but they are cheaper and also avoid the necessity of paying an entrance duty of 11 per cent. The molds for pressing fezes into shape are imported from Germany.

In the large seacoast towns of the Turkish Empire all foreigners, and even many Ottoman subjects of non-Moslem religion, do not wear fezes, but in the interior of Asia Minor nearly everybody, without distinction of nationality, wears them.

AMERICAN COTTON IN SWEDEN.

SWEDISH SPINNERS PREFER TO BUY DIRECT FROM EXPORTERS.

Consul W. Henry Robertson, of Gothenburg, calls the attention of American cotton exporters to the desirability of having selling agents in Sweden in order that delays and commissions to German and English middlemen may be avoided. He says:

Certain progressive cotton concerns of the United States have finally realized the necessity of appointing direct representatives here for selling to the spinners, and it can only be a comparatively short time when this method will have to be followed altogether. There are some thirty-five cotton mills in Sweden, and they are rapidly awakening to the fact that their purchasing power is just to that extent reduced by having to pay the unnecessary commissions of middlemen at the ports of Bremen, Hamburg, and Liverpool, in addition to undergoing the serious inconvenience and delay of securing cabled market quotations over these ports, instead of direct. Some mills are already refusing to buy of anyone who has not a direct connection with the United States.

An energetic young firm here has vainly tried for several months to secure a direct representation for American cotton. The opinion is ventured that there is not a single American exporter who would continue to allow the indirect system of having his cotton reach Sweden if he would give the matter a moment's thought, or would take the trouble to come over here from England or Germany and see the actual situation.

In illustration of the remarkable indifference of American cotton people to such an important matter, the recent statement has been made to me that the only way in which one or two concerns here have finally succeeded in securing direct connections with the United States was to employ some one in Bremen, Hamburg, or Liverpool to wire them when an American cotton exporter came to town and then to rush over and catch him before he could leave. It seems strange that business men must be waylaid, as it were, before they can be induced to sell their goods in the most profitable way.

It is urgently suggested that American cotton exporters give this matter prompt and serious attention. The services of this consulate are always at their disposal for putting them in touch with the most

reliable and active agents here. Gothenburg is undoubtedly the place to appoint such agents. It imports annually about three times more raw cotton than any other single Swedish port and about one-half of the total amount that enters the Kingdom from all countries.

BRITISH COTTON GROWING.

GOVERNMENT ENCOURAGES CULTIVATION IN OUTLYING POSSESSIONS.

The following extracts from colonial reports on cotton growing in British possessions shows what progress is being made:

Largely owing to the efforts of the British Cotton Growing Association, cotton cultivation in the British possessions has made great strides during the past two years. The history of Egyptian cotton cultivation shows the great results which have followed from systematic cultivation. The success which has attended the revival of cotton growing in the West Indies is largely due to the fact that the cotton to which attention has been given is the Sea Island variety.

The British Cotton Growing Association has already found that by establishing ginning and buying stations in the African colonies and protectorates an immense impetus has been given to native production. The association, with the aid of government contributions given for the purpose, has made provision for the conduct of experiments and the supply of information to native growers. The extent to which cotton growing will be resorted to by the natives depends on the price which can be offered and the competition of other occupations and other agricultural crops. It is said that in India an extra million acres have been brought under cotton during the past year, and already a better description of cotton from India is being exported to this country. In fact, there can be little doubt that the systematic breeding from the inferior native cottons in India and West Africa, especially in northern Nigeria, a type of cotton can be grown in these countries of the superior qualities needed by the Lancashire manufacturers and, provided economic conditions are favorable, in such large amounts as to render the British consumer in the course of time nearly independent of American supplies.

One of the most striking features of these reports is the excellent quality of cotton which has been grown in South Africa, especially that from American seed. In the Zoutpansberg district of the Transvaal cotton grown from American seed has been valued at a higher price that the corresponding cotton grown in the United States. It is also interesting to notice that American cotton has apparently proved successful on the high ground of Nyasaland and Uganda in East Africa.

AMOUNT OF COTTON GROWN.

In the following table are given those colonies and protectorates of Great Britain in which cotton growing has attained to a commercial basis, with quantity exported and values, while in all other possessions and protectorates, except India, for which no statistics are given, cotton growing is in an experimental stage:

Name.	Year.	Pounds.	Value.
Europe:			
Cyprus	1907	449,248	$46,485
Africa:			
The Sudan	1906	1,412,800	220,364
East Africa Protectorate	1907	102,256	6,848
Uganda	1907	391,244	55,532
Nyasaland	1907	526,119	74,677
Natal	1906	17,620	2,628
Sierra Leone	1906	87,800	8,901
Gold Coast	1906	92,886	4,974
Lagos	1906	2,440,000	194,660
South Nigeria	1905	85,600	.....
North Nigeria	1906	356,200	.....
Asia:			
British North Borneo	1900	.....	292
West Indies	1906	.....	438,433
British Guiana	1907	.....	54
Approximate totals	.....	5,761,773	1,053,848

HEMP IN NAPLES.

A DEFICIENT CROP EXPECTED ON ACCOUNT OF RAINS AND DROUGHT.

From information furnished by Italian dealers, Consul C. S. Crowninshield furnishes the following report concerning Naples hemp in 1907 and 1908:

The crop of 1907, which was somewhat unsatisfactory in color, amounted to 40,000 tons, and the purchasing thereof started immediately it appeared on the market, and it reached such high prices—$7.72 per paesano (157 pounds) for light colored and $7.37 for discolored, in ton lots f. o. b. Naples, less 1¼ per cent for cash—that most of the mills declined business until the middle of October, when they concluded contracts at quotations 5 and 6 per cent still higher for both classes of hemp.

A great reaction set in toward the close of October, with the beginning of the financial crisis, but in December the market revived somewhat. The lowest quotations were reached in April, 1908, when light colored fell to $6.95 per paesano and discolored to $5.80 per paesano, in ton lots f. o. b. Naples. The further development of the Naples hemp market was in a great measure regulated by the new crop, which on account of heavy rains during the later planting season and on unprecedented drought during the months of May, June, and the first half of July only gave promise of half a crop, in consequence of which prices advanced to such a point that business came almost to a standstill. A deficient crop must be counted on, which is partly offset by the large area sown and the considerable stocks of old hemp on hand, estimated at from 4,000 to 5,000 tons.

Growers, however, insist upon high prices, and they are now (the middle of August) asking $7.60 for light and $6.58 for discolored per paesano. The market, however, will only definitely open when the question of the color of the new crop is decided.

NEW ZEALAND FLAX.

SUITABLE SUBSTITUTE FOR BOMBAY JUTE AND EUROPEAN FLAX.

Consul Samuel S. Knabenshue forwards an article from the Belfast News-Letter, calling the Irish linen weavers' attention to New Zealand flax as a suitable textile fiber. Following are extracts:

In the present depression of the linen trade manufacturers will be interested in textile fibers, the use of which may be profitably undertaken in weaving in combination with Belfast linen yarns. The New Zealand flax, or *Phormium lenax* fiber, is one deserving attention. It is strong and silky, and pronounced by experts to be superior to many qualities of European flax and stronger than manila hemp. It is an excellent textile fiber, although it has hitherto been used only for making sailcloth, twine for cordage, shoe laces, self-binders, saddle girths, ropes, and mats.

The fiber has a great similarity in appearance to jute, and might sometimes be mistaken for it. In the opinion of some experts it is destined to take the place of Bombay jute in sack making. German manufacturers have shown a keen interest in *Phormium tenax*, and it has been imported into Germany in increasing quantities the past two years. It has also come in for considerable attention on the part of American machinists interested in the construction of fiber-extracting machinery.

Some 400 mills are engaged in New Zealand in extracting the fiber from the leaves of the plant. Exports have risen from £18,000 (£1=$4.86) a dozen years ago to £800,000 in 1907. The prices on the London market ranges from £25 to per ton.

INDUSTRY AND LABOR.

WORKMEN'S HOMES IN GENOA.

HOUSES FOR WAGE-EARNERS TO BE ERECTED BY THE MUNICIPALITY.

Vice-Consul-General D. R. Birch, of Genoa, reports that the first step in the problem of providing suitable living quarters for workmen in Genoa was taken in July, when the minister of public works for Italy laid the corner stone of the first of a series of municipally-controlled apartment houses. The character and purposes of these houses are thus detailed by Mr. Birch:

Work on two immense buildings, each to contain 72 separate apartments, is proceeding rapidly, and they are expected to be ready for occupancy within a year.

The project to build "popular houses," as the buildings are termed, has long been recognized as a needed move for the amelioration of the living conditions of the workmen employed at this port. It is a geographical impossibility to expand the building area of Genoa; almost every available site in the lower parts of the city is at present occupied, and the only ground to be had for houses of the laboring classes is on the suburban side of the series of hills which surround the town. This shortage of building space has naturally brought about continually increasing rentals for all classes of property.

When the municipality decided early last year upon these buildings, a board of directors was chosen to purchase ground, superintend the erection of the houses in conformity with plans submitted by the city architects, and empowered upon completion to administer and manage the enterprise.

Apartments are to be of from two to five rooms each, and it is planned to rent each room at $14 a year. The present plans contemplate the construction of from 200 to 400 apartments to contain approximately from 8,000 to 10,000 rooms. Only laborers or salaried employees, with families, whose annual earnings do not exceed $500, or if without family $300, are to be admitted as tenants.

There are other houses of a like type now in Genoa, but on a smaller scale, and not under the direct management of the city authorities. Similar concerns exist in Rome, Padua, Ravenna, Mirandola, Turin, Milan, and Bari.

The details of the scheme are outlined in pamphlets forwarded containing the regulations pertaining to the construction and maintenance of these houses. [Pamphlets filed in the Bureau of Manufactures.]

WAGES IN RUSSIA.

ADVANCING RATES PAID FARM LABOR IN SOME SECTIONS.

Consul James W. Ragsdale writes from St. Petersburg that as Russia is an agricultural country, it is interesting to trace the fluctuation in prices of labor, which, like everything there during the last ten years, shows a progressive tendency to increase. The consul presents the following comparative statistics:

Thus, in 1904, the daily pay of a laborer, during the period of housing crops, increased, as compared with the average pay from 1882 to 1891, throughout European Russia, from 59 to 69 kopecks (100 kopecks=1 ruble=51.5 cents), or by 17 per cent, except in the following eight Provinces, in which the prices have fallen: Pskov, 3 per cent; Kiev, 4 per cent; Don region, 7 per cent; Olontzk, 10 per cent; Podolsk, 22 per cent; Klerson, 38 per cent, and Bessarabia, 40 per cent.

Comparing the figures of 1906 (the data for 1907 not yet being published), it is seen that the prices have risen from 66 to 76 kopecks, or by 15 per cent, except the Samara, Saratov, Simbirsk, Kazan, Ufa, Orenburg, Penza, and Tambov Provinces, where prices have fallen on an average from 5 to 10 per cent.

Wages are lowest in the east, where a laborer receives from 45 to 55 kopecks per day. The highest pay received is in the Steppe region, where it is from 70 kopecks to 1½ rubles per day, fluctuating in the other Russian Provinces from 65 to 90 kopecks a day. This amount covers a man's labor and board, the latter being calculated at 10 to 20 kopecks per day. The net income of a laborer in European Russia amounts, on the average, to 60 kopecks per day.

The amount of wages paid to women fluctuates from 35 to 55 kopecks per day, or from three-fifths to two-thirds of the amount paid to men. In Asiatic Russia the highest wage is paid in the maritime Provinces, where a laborer gets from 3½ to 4 rubles per day.

HONDURAS SEEKS LABOR.

DEVELOPING FRUIT CULTURE CAUSES PETITION FOR COOLY WORKERS.

Consul W. L. Avery writes from Belize that there is not sufficient labor in British Honduras to supply the demand of the increasing area that is being cleared for fruit growing, and all the available labor being fully employed, the people through a committee have forwarded to the British home government a petition urging the importation of cooly laborers from India. The consul continues:

The subject may be of some interest to American trade, as explaining why the British Honduras market has been so limited in the past, and creating hopes that it will very greatly improve in the future if agricultural development is encouraged and the means for such development is furnished.

The United States supplies the greater portion of foodstuffs imported, as well as a large portion of articles formerly obtained from the United Kingdom, such as clothing, cotton goods, drugs, etc., and until more attention is given to farming and stock raising American exporters will continue to supply such products of the soil that could e raised in the colony, as tobacco, corn, vegetables, rice, etc.

BRITISH OLD-AGE PENSIONS.

EXTENSIVE PROVISIONS FOR CARRYING OUT THE NEW LAW.

In transmitting a copy of the new British old-age pension act, Consul-General Robert J. Wynne writes from London:

The law provides for pensions to needy British subjects who have attained the age of 70 years at the rate of 5s. ($1.21) per week, decreasing to 1s. (24 cents) according to the means of the pensioner. Instructions have been issued by the local government board to the authorities concerned to make arrangements for allocating old-age pensions. It is hoped that the forms for claimants will be available at the post-offices by October 1.

Every county council and every borough or urban district with a population of 20,000 must appoint a pensions committee. The committee, whose members need not be members of the council, will not be less than seven nor more than the number of the council.

As it is intended to have personal interviews with applicants for pensions, each committee will appoint subcommittees for small areas corresponding as far as possible with the area in which the excise officer will act as pensions official for the exchequer. These subcommittees will number not less than five nor more than nine, and one member at least must be a member of the pensions committee. The instructions state:

> The council or the committee may be able to obtain, by communication with the local authorities, with local branches of trade unions, with friendly societies and similar bodies, and from other sources, the names of suitable and representative persons to act on the subcommittees.

RUSSIAN LABOR INSURANCE.

A NEW BILL PROVIDES FOR ADDITIONAL ASSESSMENTS.

Consul James W. Ragsdale, of St. Petersburg, advises that the Russian Duma has under consideration a bill requiring manufacturers to insure their laborers against accidents while employed in factories and to provide for them in case of illness. Upon this the consul comments:

The law of 1903 imposed this duty directly on the employers, but under the new law an insurance by an organized insurance company will be provided. This substitution will entail an increase of expense on the part of manufacturers against accidents of about 1 per cent of the salary of all the employees. As there are about 2,500,000 persons employed in manufactories, drawing an average of 220 rubles (ruble = 51.5 cents) each per annum, or a total of 550,000,000 rubles, the assessment will be considerable.

The bill further provides for insurance against illness, the premiums to be paid conjointly by the laborers and the employers, the former paying from 1 to 3 per cent of their salaries and the latter two-thirds as much, which together will aggregate about 7,300,000 rubles. These assessments will vary somewhat, but are based upon the statistics of the past, which show the average cost of treatment in case of illness to be about 4 rubles, or 2 per cent of the workman's salary. The new measure, therefore, if it becomes a law, will entail on the manufacturer an expense aggregating about 5,000,000 rubles more than was required under the law of 1903.

BELGIAN COLONIAL EXPANSION.

ABSORBTION OF THE KONGO FREE STATE STIRS UP INTEREST.

Consul H. Abert Johnson, writing from Liege, says that while the Belgian Parliament is working out the details of Kongo annexation, certain unofficial elements have been active in endeavoring to foster popular interest in questions relating to colonization. He thus describes the chief movement:

The Union Colonial Belge has recently been organized to bring together all persons who may have resided abroad, or who are in any way interested in the study of colonial affairs. The scope of this movement seems mainly to bring all these persons into closer relationship, of a social as well as a business nature; to bring them more directly into contact with the manufacturers and merchants of the Kingdom.

The Union will give all possible assistance in the organization and developing of closer commercial and industrial relations with colonial possessions or with foreign countries. It will also endeavor to familiarize Belgians with ideas of colonization; to foster the establishment of Belgians in the Kongo regions; to protect the interests of colonials, and in case of its being desirable, bring about legislative action tending to safeguard their interests.

Those who have taken the initiative in organizing this new association have also decided eventually to take measures that will have in view the protection of Belgians residing in the Kongo, and on their return to Belgium to assist them in every way possible to establish themselves advantageously in their own country. With the Kongo a Belgian colony the Union will prove immensely advantageous to those who have been employed in the Independent State. The initial work of the Union is classed under three distinct heads. The first will take cognizance of matters of a colonial character; the second will confine its labors to matters of a commercial or industrial nature; the third will control all matters that may be classed as legislative or economical.

This new association seems to have originated under rather favorable auspices, as the membership is already large, and among its members are some of the most prominent individuals in colonial affairs.

LEAD PENCILS IN JAPAN.

THEIR MANUFACTURE ENCOURAGED BY GOVERNMENT SUBSIDY.

From a newspaper clipping forwarded by Consul-General H. B. Miller, of Yokohama, it is noted that as early as 1871 the Japanese Government encouraged, by subsidy, the manufacture of lead pencils, but the enterprise was not successful, probably on account of the limited demand for pencils in that country. However, since the imports of lead pencils increased from $25,000, in 1892, to $460,000 in 1907, the Fujita Pencil Company, of Tokyo, the only company of importance of its kind in Japan, has been aroused to an endeavor to check this article of import, and also to secure a share of the trade of Manchuria and Korea. At present there is a keen competition between the pencil makers of Germany, the United States, and France for the pencil trade of Japan.

BRITISH SAVINGS' CLUBS.

MILL OPERATIVES' FUNDS FOR ANNUAL HOLIDAY EXCURSIONS.

A novel system of saving money for pleasure and holiday excursions is reported by Consul Church Howe to be in vogue in all the British manufacturing towns in the Manchester district, which he thus explains:

Immense sums are collected each year and distributed at the "Wakes" holiday. This annual holiday extends from three to seven days, and each particular town has its own fixed date. As an illustration, at all the large works and factories clubs are formed immediately after each Wakes week each year, and a secretary and treasurer are selected. The former generally holds a responsible position, and often the cashier is asked to take charge of the money.

A weekly subscription is made, and the collections are handed over weekly from the secretary to the treasurer and receipts given. The amounts so saved and distributed this year in ten mill towns is detailed, the larger portion of which is spent for holiday pleasure and excursions. This report covers but a small portion of the district, comprising only those that have been made public.

Town.	Amount.	Town.	Amount.
Oldham	$632,645	Bacup	$34,065
Heywood	97,330	Colne	29,199
Shaw	129,605	Denton	13,140
Stockport	97,330	Stalybridge	7,981
Haslingden	72,997		
Rawtenstall	48,665	Total	1,162,957

COMBATING FACTORY GASES.

GERMAN KINGDOM OFFERS PRIZES FOR REMEDYING THE DIFFICULTY.

Consul Thomas H. Norton, writing from Chemnitz, describes the damage done to vegetation by factory gases in that part of Germany, and the movement to overcome the growing damage:

The traveler through Saxony is rarely out of sight of a factory chimney. In probably no other land are industrial establishments so numerous in proportion to the area, or increasing at such a rapid rate. The present number is 24,707, an increase of 1,755 over the preceding year. The number of operatives is 685,319, an increase of 41,235 in the course of a year.

The damage to agriculture, and especially to forests, from the gases and smoke of such a multitude of factories is constantly becoming more marked. So serious has the question become that the Saxon Ministry of Finance offers prizes for effective methods of combating the evil. A prize of $2,400 will be given the inventor who devises the best system of remedying the injury due to the presence of sulphurous acid and other acid vapors in factory smoke, and generally in the products of the combustion of bituminous coal. A further prize of $500 is allotted for the best compendium of the literature on the subject.

Competitors are to submit their work before December 31, 1909. The prize for a suitable device will be assigned after a test lasting two years. The inventor retains all property rights in his device. A

prime condition is that it shall be of such a nature that ordinary, unskilled labor can use it with ease.

WORST EFFECT ON CONIFERS—BAD ATMOSPHERIC CONDITIONS.

It is a well-known fact that these acid gases exert a much more noxious effect on conifers than on deciduous growths. As 25.8 per cent of the total area of Saxony is covered with forests, and 88.7 per cent of the forest area is occupied by spruce, fir, hemlock, and other conifers, the importance of a timely study of preventive measures is evident.

It has been established by experiment that trees and plants suffer from the action of sulphurous acid when the percentage in air exceeds 0.003 per cent, and there is a high degree of humidity, especially under foggy conditions. When the weather is clear and dry, or when there is actual rain, deleterious effects are much less noticeable.

Unfortunately Saxony is a land of mist and excessive moisture, so that atmospheric conditions, as a rule, enable the acids present to exert a maximum of destructive action.

Devices in use in England and elsewhere for lessening or preventing entirely the noxious action of acid gases present in smoke are based on two principles. The smoke issues from very lofty chimneys, so that it is widely diffused in the upper strata of the air, and but a small proportion reaches a given mass of foliage; or it is brought in contact with substances or solutions, capable of absorbing and holding the greater part of the acid. Various metallic hydroxids in a moist condition, mixtures of limestone and water, or simply water, have been used with more or less success.

It is hoped that a method can be devised which, in connection with the act of combustion itself, will prevent the formation and escape of sulphur dioxid, and its later combination with moisture to form sulphurous acid.

EGYPTIAN INDUSTRIAL ACTIVITY.

INCREASED COTTON AREA—BUSINESS CONFIDENCE—FOREIGN TRADE.

The inspector-general of irrigation having estimated it as a practical certainty that this year's flood in Egypt will be a record, consequent upon the steady rise of the Nile since the first week in August, it appears to the Alexandria correspondent of a London journal no less certain that a corresponding revival in Egyptian business and finance will occur this autumn. He says:

The total area planted in cotton amounts to 1,638,040 feddans (that is, acres), or an increase of 27,183 feddans over last year, of which increase all but 586 feddans is in Upper Egypt. A particularly favorable feature of the position is disclosed by a report of the Egyptian Sucreies and Raffineries, announcing a gratifying measure of success in experiments undertaken for some time past to cultivate Java sugar cane—the well-known 105 cane—which promises to yield on Egyptian soil double the crop of the native variety, with, furthermore, an equal ratio, cent per cent, of sugar. If, as seems probable, the expectations entertained are realized when the new cane is planted on a large scale one serious disadvantage of Egypt's economic position—that, namely, of being exclusively dependent on cotton—should slowly disappear. The whole summer has been marked by a general firmness in stocks and shares, as also in land values. The trade exchanges have pursued a normal course—that is to say, in the direction of decline, as was inevitable from the inflated figures of last . To end of July exports were $12,905,000 less than the seven-month *ıod of 1907,* while imports show a decrease of $5,125,000.

FISHERIES.

MEXICAN SHRIMP INDUSTRY.

LOOKING TO THE UNITED STATES FOR A LARGER MARKET.

Vice-Consul Russell Hastings Millward, of Tampico, gives the following account of shrimp fishing as it is carried on in Mexico:

At the village of Pueblo Viejo, situated by the Laguna de Pueblo Viejo, about 4 miles from Tampico, is centered one of the oldest and most interesting of Mexican fishing industries. Here, from March to December, the natives gather the camarones or shrimp, which abound in the brackish waters of the lake, and in a primitive manner cook, dry, and prepare them for market.

These famous fishing grounds comprise a group of beds of the narrow water passages of the laguna lying between the numerous small islands and adjacent to the village. They are directly under the Mexican federal authorities, and contain 92 pesqueres, or trap-like inclosures, that are being operated. These inclosures are V-shaped and constructed of bamboo poles, well driven in, and between which is interwoven a mat, composed of palm leaves, extending from the bottom to the surface of the water, and to within a few feet of the shore at either end. The lake is connected by canal and the Panuco River with the Gulf of Mexico, from which the salt water is derived, and which the shrimp follow in the course of the tides. They are caught in the traps at the outgoing tide, when it is but a simple matter of gathering with a dip net and conveying them, by dugout canoes, to the village.

ALLOTMENT OF CONCESSIONS.

On March 1 each year the names of all applicants for concessions are brought before the collector of the port of Tampico, who directs the lottery held at the custom-house for the purpose of designating the locations to be given out. As many numbers as there are applicants are made out and placed into a revolving receptacle, and the pesqueros allotted to the fishermen according to the different numbers selected. Each location is numbered, and the concession is good for one year, or until the next drawing takes place. Thus a man never knows one year just where he will be placed the next.

As quickly after gathering as practicable the shrimp are carried to the cooking sheds and placed, two bushels at a time, in a large copper kettle wherein, over a primitive Mexican oven, they are boiled in a solution composed of eight parts of water and six parts of salt for a period of fifteen minutes. After removal they are spread over a large cemented inclosure, exposed to the sun, and allowed to dry for half a day. The remaining water in the kettle is boiled away and the salt recovered for future use. The shrimp are then packed in sacks of four arrovas (100 pounds) capacity, carried by canoe to Tampico, and reshipped to Veracruz, where an excellent market is maintained for the product, at prices ranging from $1.75 to $2 per arrova.

There are gathered and prepared for shipment 150 tons of shrimps annually, valued at about $20,000, most of which are consumed in the

home markets, although an effort is now being made to introduce them in the United States.

Canning has been attempted but with rather indifferent results, and practically the entire production is sold in the dried state. [The address of the firm that purchases, prepares, and ships the entire catch of shrimp is on file in the Bureau of Manufactures.]

BRITISH COLUMBIA SALMON.

SUCCESSFUL RESULT OF THIS SEASON'S PACIFIC COAST FISHERIES.

In reporting that the salmon fisheries in British Columbia for the season of 1908 had now closed, and that the amount of the pack has been ascertained from each canning plant, Consul-General George N. West, of Vancouver, sums up the results:

The total catch for the season of the sockeye salmon was 338,000 cases, and was distributed among the different packing sections as follows: Fraser River, 74,000; Maars, 27,000; Skeena, 134,000; Rivers Inlet, 60,000; outlying points, 43,000. This is an excess over the pack of 1907 of 24,000 cases, which was 314,000.

The excess of the pack for the year was largely confined to the canneries on the Fraser and Skeena rivers, there being a noticeable falling off in the pack on Rivers Inlet. It is reported by the inspector of fisheries for the province that the number of salmon reaching the spawning grounds this season is at least triple the number that have done so for several years past.

The provincial government has passed regulations curtailing the size of nets to be used, also enforcing the regulation that no fishing should be done from Saturday to Monday. Fishermen holding Dominion licenses which did not contain the restriction as to size of nets objected strongly to the enforcement of the provincial regulations in that respect. The laws and regulations in connection with salmon and other fisheries in this province are receiving close attention at the present time, as fears are entertained that with the unrestricted fishing that has prevailed heretofore this industry will become depleted if not entirely ruined in a few years.

CANADIAN LAKE FISHING.

GOVERNMENT COMMISSION FEARS EXTINCTION OF WHITEFISH.

Consul A. G. Seyfert, of Owen Sound, Ontario, transmits the following report concerning the danger that is threatening the fishing industry in Georgian Bay:

A few years ago the Dominion government appointed three commissioners as a fish commission to investigate the fisheries of Georgian Bay, Lake Huron and Lake Erie. The final report of the commission's exhaustive work has just been issued and gives valuable information of Canada's fish industry. A summary of the report of Georgian Bay fishing deals with the kind of nets and gear used, and then turns to the present state of the fisheries, treating separately on the whitefish, lake or salmon trout, pickerel or wall-eyed pike, sturgeon, herring, and coarse fish. Respecting whitefish and trout, the two classes of fish of the greatest commercial value, report says: " Forty or fifty years ago immense quantities of lake

whitefish were caught in the Georgian Bay from Collingwood northward."

The commission, in the course of its investigation, was profoundly impressed with the rapid decline of the supply of this valuable fish. The commissioners say that the depletion is so alarming in Georgian Bay waters that, unless drastic measures are immediately taken for its protection and preservation, the whitefish will become well-nigh extinct in a few years. The present catches are only a small proportion of the earlier catches, even with the largely increased machinery and amount of net and gear.

The quantity of whitefish taken in different years from 1875 to 1906, inclusive, in the Georgian Bay and North Channel were:

Year.	Pounds.	Year.	Pounds.
1875	2,346,800	1895	1,355,275
1880	1,042,000	1900	1,403,101
1885	1,421,000	1906	1,259,450

NO ADEQUATE SUPERVISION—SPAWNING GROUNDS.

The fishermen are not obliged to make a sworn return to the government, but the statistics are compiled from the overseers' reports and are as reliable as can be obtained. The evidence gathered shows that the annual catch is not only getting less every year, but that the average size of the fish caught is far smaller than formerly. The cause of this is largely due to the ruthless destruction by lawless fishermen, who follow the whitefish to their spawning beds and take them in immense quantities with seines and trap nets.

The lake trout is next in importance to the whitefish as a merchantable commodity, although of late years the pickerel is coming very fast to rank above the trout in commercial importance. The trout is not diminishing at anything like the rate of the whitefish. The fishermen say that the whitefish spawn on flat rocks near the shore and that the spawn is destroyed by suckers and other coarse fish. They also allege that years ago, when great quantities of saw logs were towed across Georgian Bay to American ports, the bark from these millions of logs was worn off in transit across the water and covered up the feeding grounds of the whitefish, but did not interfere with the trout. The spawning grounds of the latter are shelving rocks in the center of the lake, where suckers do not resort. The trout is also better adapted by nature for self-protection, and to this cause particularly, more than to any other, is it due that the trout is more than holding his own in the Georgian Bay waters.

The lake trout taken in the Georgian Bay and North channel for the several years from 1880 to 1906, inclusive, were:

Year.	Pounds.	Year.	Pounds.
1880	1,100,800	1900	2,807,233
1885	3,396,860	1905	3,498,390
1890	6,495,240	1906	3,535,610
1895	6,062,604		

RECOMMENDATION TO PROHIBIT EXPORTATION.

In dealing with the fisheries from the commercial point of view the report goes extensively into the present situation, referring to the

offenses against the law committed by the fishermen, who are its most flagrant violators. For instance, the maximum quantity of nets allowed to be used by each tug is 24,000 yards and by a sailboat 6,000 yards, while the evidence shows that every fishing tug actually fishes from 60,000 to 100,000 yards, and sailboats, rowboats, and gasoline launches fish as a rule 12,000 to 20,000 yards, or twice to thrice the amount permitted by law.

The report concludes with the coarse fish of the lake and takes up the matter of the prohibition of the exportation of white fish. The commission strongly recommends the retention of the product of the lakes for the home market until such time as it is deemed advisable to again catch for export.

If the recommendation of the commission is enforced so that no more fish will be exported, the American supply from Georgian Bay will be 1,000,000 pounds less per year. The Georgian Bay fishing fleets land at Owen Sound twice a week, and all fish exported are shipped from here. The weekly shipment is about 40,000 pounds, or a million pounds for the season from May to November. Of the total annual catch in the bay of all kinds of fish 1,000,000 pounds are exported to the United States from Owen Sound.

SPONGE INDUSTRY OF YUCATAN.

AN AMERICAN COMPANY PLANS TO CONDUCT THE WORK ON LARGER SCALE.

Vice-Consul R. A. Williams, of Progreso, gives the following account of the sponge fisheries on the Yucatan coast and the plans of an American company to enlarge them:

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POTTERY INDUSTRY.

PORCELAIN AND CERAMIC WARE.

UNITED KINGDOM.

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Unmanufactured pottery, which consists chiefly of china clay or kaolin and ball clay, was exported in 1907 to the amount of $3,438,762. Both ball clay and china clay are exported largely to the United States. In 1907, out of 655,000 tons of china and ball clay exported to all countries, 234,278 tons went to the United States. Roughly, it is calculated that 40 per cent of the exports of unmanufactured clay, year in and year out, are to the United States. England is the only country in which ball clay is produced.

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If the recommendation of the commission is enforced so that no more fish will be exported, the American supply from Georgian Bay will be 1,000,000 pounds less per year. The Georgian Bay fishing fleets land at Owen Sound twice a week, and all fish exported are shipped from here. The weekly shipment is about 40,000 pounds, or a million pounds for the season from May to November. Of the total annual catch in the bay of all kinds of fish 1,000,000 pounds are exported to the United States from Owen Sound.

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The exports of earthen and china ware and manufactures of clay from the United Kingdom for the calendar years 1906 and 1907 and for the first eight months of 1908 were as follows:

Description.	1906.	1907.	1908 (8 months).
BY ARTICLES.			
Porcelain, chinaware, and parian	$850,756	$460,594	$433,176
Floor tiles for tesselated pavement; all other tiles (except roofing and street paving); Sanitary ware; other earthenware, including semiporcelain and majolica	8,109,545	9,629,153	6,263,022
Jet, Rockingham, and glazed terra-cotta ware	10,263	16,584	43,749
Red pottery, stoneware, brown and yellow ware	1,588,318	1,417,572	829,183
Other sorts, including electrical ware, door fittings, and chemical ware	1,031,478	879,882	340,796
Total	11,590,360	12,403,785	7,909,926
BY COUNTRIES.			
United States	2,785,901	2,988,829	1,675,414
Germany	378,263	429,298	199,749
France	292,856	318,190	233,250
Brazil	582,510	732,369	412,328
Argentina	899,733	870,587	639,413
British South Africa	546,372	563,875	242,346
British East Indies	781,764	601,576	598,063
Australia	870,344	1,169,638	704,065
New Zealand	478,839	615,383	361,293
Canada	1,228,917	1,486,033	926,576
Other countries	2,744,861	2,628,007	1,946,999
Total	11,590,360	12,403,785	7,909,926

It should be noted that while the United Kingdom exports to the Continent, the imports of pottery from Continental countries are large. For the calendar year 1907 the imports in round numbers were: France, $955,000; Germany, $1,585,000; Holland, $1,752,000; Belgium, $160,000; total, $4,452,000.

There are minor importations of sanitary ware specialties, such as closet basins, from the United States amounting to perhaps $25,000 per annum.

The imports of British pottery into the United States are better understood from the official statistics. For the last three fiscal years the imports of china, porcelain, parian, and bisque, both undecorated and decorated, has been as follows: In 1906, $2,759,387; 1907, $3,147,840; 1908, $3,147,310.

RELATION OF STAFFORDSHIRE TO UNITED STATES.

Substantially the sum total of these imports are from the Staffordshire district since it does a business of approximately $3,000,000 per year with the United States. A sketch of Staffordshire is therefore given. The district is generally called "the Potteries."

The industry is centered in a comparatively restricted area, which comprises six or seven towns and has a population of 235,000, of whom about 45,000 of both sexes are employed in the earthenware and chinaware factories. The chief centers are Burslem, Hanley, Tunstall, Stoke-on-Trent, Fenton, Longton, and Etruria. In these towns there are differences in the classes of goods manufactured; as, for instance, at Burslem, Hanley, and Stoke, chinaware, earthenware, tiles, and sanitary ware; Tunstall, earthenware, tiles, and sanitary ware; Longton, bone china and earthenware; Etruria, high-class chinaware. In all there are about 300 potteries.

The district is served by the North Staffordshire Railway, which connects with the main trunk lines, and which has a loop line of its

own; by a system of intercommunicating electric trolleys; and by the Trent and Mersey canal and the Cauldon Branch canal. Some traffic is also carried over the Weaver River, a small stream which provides water communication with the Birmingham district. The chief means of transport employed is the canal, which joins the Mersey at Runcorn and thus affords access to the sea. The canal is controlled by the North Staffordshire Railway Company, which fixes the tolls, though most of the carrying trade is carried on by private companies. The freight or cargo limit of the towboats is 26 to 28 tons. The total traffic movement by both railway and canal measures the industrial activity of the district. In 1906 is was as follows:

Description.	By rail.	By canal.	Description.	By rail.	By canal.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Coal and coke forwarded	2,055,851	114,313	Potters' material (flint, clay, etc.) received	83,952	187,374
Earthen and china ware forwarded	135,188	48,395	Ironstone and iron ore received	136,710	.....
Pig iron forwarded	106,154	1,272			
Manufactured iron forwarded	129,564	16,024	Total	2,597,419	367,378

COST ELEMENTS OF PRODUCTION.

The cost elements of production in the Staffordshire potteries are divided roughly into establishment charges or working expenses, raw material, and labor. The proportion of these elements differs somewhat according to the classes of articles manufactured, the improvements made in the factories by means of labor-saving devices, and some local factors. Since some of the potteries represent an investment dating back a century and a half, it is extremely difficult to arrive at any conclusion regarding the amount of capital which should be counted as representing the value of the plant. In this element good will and established reputation of the goods produced would also have to be considered.

Notwithstanding the difficulty of arriving at an accurate conclusion, the three factors of establishment charges or working expenses, materials, and labor are usually divided into equal parts of 33⅓ per cent. This is in particular true of the potteries whose output is decorated ware and common china. A few factories count labor as high as 50 per cent.

COST OF ASSEMBLING RAW MATERIALS.

The chief materials used by the potteries and which have to be assembled for the manufacture of the finished product are china clay, ball clay, flint, dry spar, semidecomposed granite stone, zinc and lead oxides, boracic acid, and cobalt. For one set of potteries which manufacture bone china, calcined bone to the quantity of 5,000 to 6,000 tons is imported annually from Argentina.

The china clay is brought from Cornwall, Devonshire, and Dorsetshire, but chiefly from Cornwall. Flint is imported from the coast of France and Jersey Isle. Supplies of borax are from the United States, potters' colors from local works and from the Continent, and liquid gold from the same source. The Cornwall clay is declared to be the best in the world for all kinds of paste and earthenware and heavy importations of it are made into Staffordshire.

In September, 1908, the cost of clay at Cornwall, as quoted in Staffordshire, was 18s. to 28s. ($4.37 to $6.80) per ton, according to quality, with discount of 10 per cent off for cash. The sea freight from the Cornwall coast to the mouth of the canal at Runcorn on the Mersey was 4s. (97 cents); the canal freight from Runcorn to the Potteries was 7s. 5d. ($1.80) per ton. Taking the average price of the clay at Cornwall as 23s. ($5.59) per ton, and allowing 10 per cent off for cash, which would make it 21s. ($5.10) the net cost delivered at the Potteries would be $7.78 per ton.

The cost of the raw flint per ton at the Potteries in the same month was quoted at 18s. 3d. ($4.43); slop flint 4½d. (9 cents) per peck of 32 pounds, including 20 pounds of water. This cost covered the transportation from France and the Isle of Jersey. The other raw materials do not figure materially in the general cost price. In 1906 the quantity of potters' material received in the Staffordshire district was 221,326 tons, the amount by rail being 33,952 tons, and by canal 187,374 tons.

COST OF FUEL.

The cost of fuel is considered by the manufacturers relatively high, notwithstanding that some of the potteries are at the mouths of the coal pits. The whole district is underlaid with carbon deposits. The coal output of Stafford County in 1906 was 6,215,647 tons.

The price of coal at the mine in September, 1908, was as follows: Slack, 7s. 2d. ($1.74); straight up, 10s. 6d. ($2.55); best, 14s. 6d. ($3.52), with 2½ per cent off for cash.

Much slack is used, yet it is necessary also to use large quantities of the higher grades. To the cost at the mine must be added 6d. (12 cents) per ton for cartage, which is paid by the potters. In a few of the potteries some gas firing is now done, but there is practically no use of electricity, and in general it must be said that the outlay for power is the outlay for coal.

PIECE-RATE SYSTEM OF WAGES.

Wages in the potteries are based entirely on the piece-rate system, and this adds to the difficulty of obtaining an average wage rate, since earnings vary in the different establishments according to the kinds of goods manufactured and also according to the skill of the workmen. A loss of wages is usually noted in connection with the factories running on short time without any decrease in the rates for the piecework. Manufacturing potters also complain of a similar loss on their capital investment, as many of the factories do not run to the full working capacity. Most of the manufacturers count as an element of cost in connection with wages the charge put upon them through the requirements of the factories act and also the employers' liability act. They are required to provide insurance against lead poisoning. The wage scale is usually arranged by agreement between the manufacturers and the operatives. Where an agreement is not reached resort is had to the Government board of conciliation, which seeks to arbitrate the difference. Strikes are not common. Notwithstanding the piecework system, the lack of full time at some seasons, and the irregularity of the workmen in the busy seasons who fail to report for work on Monday, a general average of the wages was arrived at in the official investigation made from 1905 to 1907 by the British Board of Trade.

This investigation showed the wages per week for pottery manufacture in October, 1905, in the towns of Stoke-on-Trent and Hanley, which have the same scale as the other pottery towns, to be as follows: Potters, 25s. to 35s. ($6.08 to $8.51); ovenmen, 30s. ($7.29); painters, gilders, and decorators, 30s. to 40s. ($7.29 to $9.72); laborers, 18s. ($4.37). These rates are for the full ordinary week in summer with the Saturday half holiday excluded. This week is taken as representing fifty-four and one-half hours. In winter the hours of work are shorter and the total earnings are less. During the last ten years the average rate for piecework is said by some manufacturers to have advanced about 5 per cent.

The wage rate in the potteries compares favorably with that in other trades. In the buildings trade the weekly rate for bricklayers is given as 37s. 11d. ($9.21); masons 38s. 7d. ($9.37); carpenters and joiners, 36s. 10d. ($8.95); plumbers, 36s. 4d. ($8.83); plasterers, 38s. 7d. to 40s. 10½d. ($9.43 to $9.93); painters, 34s. 1d. ($8.28); laborers, 26s. to 29s. 6d. ($6.32 to $7.17). In the engineering trades the rates average slightly above these figures, some classes of workmen getting 40s. ($9.72) per week. In the printing trade the average weekly rate for compositors is 32s. ($7.78). According to some of the manufacturers there has been an increase in the earnings of the skilled potters from 4s. (97 cents) to 5s. ($1.22) per day during the last few years. It is also said that where machinery has been introduced, such as the power wheel superseding the string wheel, the sum total of the workmen's weekly wage is the same or greater than formerly, but a larger amount of work is required from them in order to obtain it.

INCREASED EMPLOYMENT OF WOMEN AND GIRLS.

A notable feature of the present tendency in the pottery industry is the increase in the number of females employed. The law permits the employment of both boys and girls over the age of 10, but this employment is regulated by the stringent provisions of the factories act. The female employees, with very few exceptions, range in age from 12 years upward. The number of girls is constantly increasing, probably in a higher proportion than that of the mature women. Yet the number of the latter is large.

According to the last British census, in the town of Hanley the total number of males of 10 years and upward occupied in all employments was 19,825, while the total number of employed females, unmarried, married, or widowed, above the age of 10, was 8,525, of whom more than half were employed in the pottery factories. At Stoke-on-Trent the number of male employees in the china and earthen ware factories was 2,324; females, 1,729.

A leading cause in the increase of female employment has been the change during the last few years in the classes of pottery manufactured, the demand for decorated ware having opened up a wide field for girls and women, who perform this kind of work satisfactorily. There is complaint against the system on the part of the male workers as tending to lower the wage rate and to drive them into other employments.

HOUSING AND RENTS.

In the rent element of the cost of living for the pottery operatives there is not so much uncertainty as with regard to wages. Attractive parks and public baths are maintained by the municipalities.

Tenements are almost unknown. The whole district is filled with rows of brick dwellings with sloping tiled roofs. These dwellings open directly on the pavement. They are built in solid blocks 30 to 40 in a block, but there is either a passageway between them to the rear, or an alley separating the houses on the different streets. There is no garden, but a paved area with a coal bin and sanitary conveniences in the rear. The houses are of two stories and contain from two to six rooms. The dwellings occupied by the average class of working men have four rooms, although there are many five-room cottages. In the four-room dwellings there is a sitting room, a kitchen, and a scullery on the ground floor, and two bedrooms on the upper floor. The five-room houses have an extra room on the upper floor. In the six-room houses, some of which have bay windows, there are two living rooms on the ground floor in addition to the kitchen and scullery, and on the floor above three bedrooms.

Rents vary a little from year to year. The rent includes the various tax rates which are paid by the tenant. The weekly rents, including all rates, in Stoke-on-Trent, which apply also to the other pottery towns, are, for a two-room dwelling, 72 to 78 cents; three-room, 66 to 84 cents; four-room, older type, 90 cents to $1.02; four-room, modern type, $1.14 to $1.44; five-room, $1.32 to $1.50; six-room, $1.56 to $1.92.

RETAIL PRICES.

Retail prices show very slight variations in the different pottery towns. There are good markets in all of them. The statement annexed shows the prevailing prices, in cents, of the articles of most common consumption when the investigation was made by the Board of Trade in October, 1905, and confirmed by later inquiries. Some increases have taken place in meat and flour, and the present general range is perhaps a little higher as a whole.

Per pound: Tea, 32 to 34; sugar, loaf and demerara 5, white granulated 4, moist 3½; bacon, collar 10 to 12, back and roll 14, streaky 13; eggs, 24; cheese, American cheddar 14; butter, fresh 28, salt colonial and Irish 24 to 26, salt Danish 26. Potatoes, 5, and flour 18 per 7 pounds. Bread, 9 per 4 pounds. Milk, 7 per quart. Paraffin oil, 16 per gallon. Coal, 20 per hundredweight of 112 pounds.

Home killed or British meat is preferred to the cheaper sort from abroad. The range of prices is shown as follows, the first quotation in each article representing the predominant price in cents of the British or home killed, and the second that of foreign and colonial:

Beef: Ribs, 16–11; silverside, with bone 6–4, without bone or shin 12–16; steak, beef 16–12, rump 18 to 20–14; thick flank, 16–11; thin flank, 10–7. Mutton: Leg, 17 to 19–10; shoulder, 15 to 16–8; breast, 12–4; best end breast, 18–11; scrag and neck, 12–3; trimmed chops, 18–11. Pork, home killed only: Leg, 14; foreloin. 16; belly, 12; chops, 16.

Clothing is a more stable article than food products when price is considered. It also shows less variation in different parts of England than do food prices and rents. An average of cost of clothing, as given in the Board of Trade reports, is $10.42 for suits, $3.22 for trousers, and $9.42 for overcoats. In boots and shoes, men's lighter ·les are quoted at $2.52 and women's styles $1.80. The average

cost of clothing from 1900 to 1904 rose a trifle over 2 per cent. In 1908 it was about the same as in 1904. Retail tailors note a tendency on the part of the working man to buy less durable clothing.

POTTERY FREIGHT RATES FOR ENGLISH MARKET.

Freight charges for the manufactured products are considered by the potters of more importance than the charges for the transport of raw material. The Trent and Mersey canal being owned by the North Staffordshire Railway Company, it follows that there is no real competition between the railway and the canal system. Some of the largest potteries have their own canal boats, but most of the carrying on the canal is done by two large companies. In connection with the transportation rates it should be stated that the railway and canal companies collect and deliver the goods, this charge being included in the freight rate. The general railway rate for raw material, loose earthenware, etc., is based on two-ton lots, no reduction being made for larger shipments or for train loads. The rate for china and earthen ware goods, parian, porcelain, etc., is based on crates or packages of 3 hundredweight or 336 pounds.

The domestic rates which furnish a basis of estimating the addition to the cost of production that must be made to the price of pottery consumed in parts of England outside the district itself can be seen from the freight quotations to a few leading points. The following is an example, the town of Hanley being taken as the shipping point. Earthenware and chinaware, packed, collected, and delivered in casks or crates of 3 hundredweight or over, the gross rate being given:

To—	Miles.	Per ton.
London	147	$7.40
Liverpool	57	3.78
Leeds	74	5.46
Glasgow	258	8.82
Birmingham	48	3.78

A shipping rate of $6 per ton is given to London for goods to be exported.

For chinaware and earthenware not packed and at owner's risk, in 3-ton lots, the rate from Hanley to London is $4.60 per ton, and in 4-ton lots $4.40, but this does not enter into the general calculation of the cost of pottery in the domestic market. The manufacturers estimate that the land rate for their products in the home market is equal to the land and water rate to the United States.

LAND AND WATER RATES TO UNITED STATES.

The ocean rates via Liverpool through which the shipments to the United States are made from Hanley are as follows: To Liverpool by railway at owner's risk, per ton gross weight, $3.78; to Liverpool by canal, insurance and collection paid, delivered at side of steamer, $3.60.

It will thus be seen that the canal rate is slightly lower, but it is offset by some disadvantages. However, the bulk of shipments for the United States is made by the canal to the side of the steamer in the Mersey, the estimated share being 75 per cent.

The through rates to the United States are obtained by adding the local rate from the Potteries to Liverpool to the ocean rates. In Sep-

tember, 1908, the rates quoted by the Liverpool shipping agents were, from that port, as follows:

To—	Rate.	To—	Rate.
New York[a]	$1.80	New Orleans, per ton weight	$1.90
Boston, per ton weight	.44	Cincinnati, per 100 lbs	.27
Baltimore, per ton weight	1.80	Chicago, per 100 lbs	.27
Philadelphia, per ton weight	1.80	St. Louis, per 100 lbs	.31

[a] By freight steamer per ton of 40 cubic feet; add 10 per cent for shipments by mail steamer.

The total cost of freight from the potteries to the ports quoted would best be obtained by adding the canal rate to the ocean rate, that is, freight from Hanley to New York would be $3.60 plus $1.80, or $5.40 per ton cubic measurement by ordinary freight steamer. The shipments made by the fast mail steamers are usually of high-class goods which are wanted delivered at a certain date and are classed as rush orders.

Through rates, that is, ocean and rail rates from Liverpool to the interior points of the United States, are quoted in American money. The cost of shipment from Hanley to Chicago would be obtained by adding the rate of $3.60 per ton to Liverpool to the rate of 27 cents per 100 pounds from Liverpool to Chicago, which is equivalent to $6.05 per ton of 2,240 pounds; that is, the rate from the Potteries to Chicago would be $9.65 per ton. The charge on a package of 224 pounds would 96½ cents.

PACKAGES SHIPPED TO AMERICAN PORTS.

By far the largest number of shipments is made to Baltimore, that port apparently serving as the cheapest place for distribution to interior points. The relation of the different ports to one another is shown in the following shipping circular summary of earthenware exports (number of packages) through Liverpool to the United States from January 1 to August 26, 1908: Boston, 3,846; New York, 4,048; Baltimore, 12,475; Philadelphia 3,533; New Orleans, 3,404; Newport, 485; San Francisco, 39; Portland, Me., 3,771; Galveston, 667; inland points, 570; total, 32,838.

The number of packages shipped to the United States averages above 50,000 per annum. For the last five years the shipments have been as follows: In 1903, 54,689; 1904, 51,697; 1905, 45,896; 1906, 51,982; 1907, 56,071.

BASIS OF SELLING PRICES.

In marketing the various earthenware and chinaware products the general range of selling prices is fixed by the manufacturing potters by agreement among themselves. In 1907 an advance was made in some lines, owing to the increased cost of coal. The average of cost prices which was established by the Earthenware Manufacturers' Association in 1901, and which is comprised in a bulky confidential volume for the trade entitled Schedules of Cost Taking, has not changed materially since then. It is still standard and is the basis on which the selling price is established. Some of the manufacturers after allowing for 5 per cent interest fix the expectation of profits at 12½ per cent, while others are content with 10 per cent. Retail prices are assumed to be 50 per cent above factory prices, this including transportation and other charges.

TRADE DEPRESSION.

MANUFACTURERS SHOW LOSS OF MARKETS AND RESIST HIGH WAGES.

Consul-General Robert J. Wynne, of London, in reporting that a board of arbitration has been sitting at Stoke to consider the demand of the English potters for an increase of wages, depicts the present trade difficulties:

Evidence was given by pottery manufacturers of the existence of great depression in the pottery trade at the present time. Particularly in the American market, which was the principal foreign field for British ware, it was stated by one of the largest manufacturers that the dinner-ware trade was very largely affected by foreign competition.

One influential manufacturer said that in many hotels in London the head employees were often German, and when they ordered their ware they gave preference to Germany. He also partially attributed the decline in the dinner-ware trade to the change in the habits of life of Londoners. A large number of Londoners now live in flats and dine in restaurants, and consequently require no dinner services in their homes.

Another manufacturer said his firm formerly did a large trade with Russia, but it had now gone largely to Germany. The Italian trade had also gone, as the Italian manufacturers obtained Devon and Cornwall clay and made pottery themselves. It was the same with their Dutch trade, as Dutch manufacturers were making the shapes of this firm. In the home market they felt foreign competition all around.

Other evidence was called to prove that the present time was inopportune for increased wages. The cost of pottery materials and fuel, it was stated, had greatly increased. Taxes were higher and the burden of insuring operatives under the compensation act was heavy.

GERMANY

DECREASED TRADE AND EXPORTATIONS, ESPECIALLY OF TABLEWARE.

A brief review of the German porcelain industry was recently published in the Fränkische Kurier, of Nuremberg, which Consul H. W. Harris summarizes as follows:

The rapid growth of the industry in recent years is referred to, the value of exports in this branch having risen from 32,100,000 marks ($7,639,800) in 1897 to 71,200,000 marks ($16,945,600) in 1907. In 1897 the product of the German porcelain factories was estimated at from 79,000 to 80,000 metric tons (metric ton = 2,204.6 pounds), while the total product for the year 1907 was not far from 200,000 metric tons.

Two periods of depression are noted in the German porcelain industry within the past ten years, the first from 1901 to 1903 and the second beginning near the close of 1907. The first crisis was marked by a fall in prices without any diminution in exports. The present depression in the industry, on the other hand, is characterized by relatively stable prices, but by a marked falling off in amount and value of export. Thus the value of porcelain exports for the first six months of 1908 amounted to 31,790,000 marks ($7,566,020), as

offenses against the law committed by the fishermen, who are its most flagrant violators. For instance, the maximum quantity of nets allowed to be used by each tug is 24,000 yards and by a sailboat 6,000 yards, while the evidence shows that every fishing tug actually fishes from 60,000 to 100,000 yards, and sailboats, rowboats, and gasoline launches fish as a rule 12,000 to 20,000 yards, or twice to thrice the amount permitted by law.

The report concludes with the coarse fish of the lake and takes up the matter of the prohibition of the exportation of white fish. The commission strongly recommends the retention of the product of the lakes for the home market until such time as it is deemed advisable to again catch for export.

If the recommendation of the commission is enforced so that no more fish will be exported, the American supply from Georgian Bay will be 1,000,000 pounds less per year. The Georgian Bay fishing fleets land at Owen Sound twice a week, and all fish exported are shipped from here. The weekly shipment is about 40,000 pounds, or a million pounds for the season from May to November. Of the total annual catch in the bay of all kinds of fish 1,000,000 pounds are exported to the United States from Owen Sound.

SPONGE INDUSTRY OF YUCATAN.

AN AMERICAN COMPANY PLANS TO CONDUCT THE WORK ON LARGER SCALE.

Vice-Consul R. A. Williams, of Progreso, gives the following account of the sponge fisheries on the Yucatan coast and the plans of an American company to enlarge them:

The sponge bars lying along the coast and outlying islands off the eastern side of the peninsula of Yucatan have never been extensively exploited up to the present time, or very recently; indeed, not at all, except by a few native fishermen, known here as "skin divers." According to surveys recently made of the sponge beds, it is said that there is an abundance of high-class sponges, particularly of the silk and sheep wool varieties, to be obtained in these waters, but the product of these native divers has never more than satisfied the local demand, and no attempt has, as far as can be learned, been made to develop an export trade in this article.

Recently, however, an American syndicate, made up of business men of New Orleans, has begun operations on the east coast, working under a concession granted to a resident of said city, and have brought here for this purpose experienced Greek divers and all necessary paraphernalia for going to a depth of 15 fathoms (90 feet) or more for the sponges, and it is their intention that the exploitation shall be on a large scale.

The native divers are not in the habit of taking sponges from depths exceeding 15 feet or thereabouts, and, considering that the better class of sponges are taken in the greater depths, it is reasonable to presume that, in the event of the enterprise being successfully carried through, Yucatan will before long be furnishing a considerable amount of fine sponges for the American markets.

The port of Progreso affords abundant facilities for shipment direct to the principal Atlantic and Gulf ports of the United States, as well as to the chief ports of Europe.

POTTERY INDUSTRY.

PORCELAIN AND CERAMIC WARE.

UNITED KINGDOM.

STATISTICS OF COST OF MANUFACTURE AND FOREIGN TRADE.

Special Agent Charles M. Pepper, in writing from London, states that the value of the output of the British potteries is variously estimated at from $27,750,000 to $39,000,000, and gives the following trade details:

The estimate of output which receives the most credence is that of $30,000,000 annually. The number of operatives employed in the pottery industry is placed in the returns of the British census for 1901 at 135,618. This includes 69,256 engaged in brick, tile, and terra-cotta works and 66,362 in earthenware, chinaware, porcelain, etc. According to the manufacturers approximately the same figures hold in 1908. The proportion of the sexes in 1901 was males, 105,681; females, 29,937. In 1908 the number of female operatives had largely increased.

The potteries are located in various parts of the United Kingdom, including Staffordshire, London, Bristol, Leeds, Newcastle on Tyne, and other small districts. The bulk of the manufactories, however, are in Staffordshire, in the west of England, where extensive beds of clay and marl have been the basis of the industry for nearly two centuries. It is estimated that 80 per cent of the pottery manufactured in the United Kingdom is in this district.

Unmanufactured pottery, which consists chiefly of china clay or kaolin and ball clay, was exported in 1907 to the amount of $3,438,762. Both ball clay and china clay are exported largely to the United States. In 1907, out of 655,000 tons of china and ball clay exported to all countries, 234,278 tons went to the United States. Roughly, it is calculated that 40 per cent of the exports of unmanufactured clay, year in and year out, are to the United States. England is the only country in which ball clay is produced.

FOREIGN MARKETS FOR BRITISH POTTERY.

The total exports of manufactured pottery to all countries average approximately $12,000,000 annually. In recent years the exports of red pottery and brown stoneware and common crockery and manufactures of clay have decreased almost to the vanishing point. There has also been a falling off in the exportation of fire bricks, glazed bricks, etc.

volle (biri-binlik), 70 to 90; klein baumvolle (pamoukli), 140 to 170; soliste kaeten (taneli), 300 to 350.

These are the principal sizes, but there are four smaller sizes, of which each case contains the following number of pieces: 500, 800, 1,200, and 1,500. These smaller sizes are classed in only two qualities.

There are two standard sizes of cases. For the first three sizes of nuggets the case is 6¾ by 13½ by 28 inches, and for the five other sizes 7½ by 14¾ by 32 inches. These are the sizes recognized by the Government, no other sizes being permitted. The Government tax is $3.30 per case.

The prices of these cases is as follows, according to the size and quality of the nodules: Sira-mali, $88 to $220; biri-binlik, $52.80 to $88; pamoulki, $22 to $44; taneli, $8.80 to $17.60.

There is much waste in preparing the product for the market, the adherence of earthy matter thereto rendering it useless. Clean cuttings are, however, exported to Vienna, where they are used for imitation purposes.

ENTIRE OUTPUT EXPORTED TO VIENNA.

Almost the entire output of this article is exported to Vienna, and thence distributed to the various European countries and to the United States, the latter buying only the first four sizes and that only in the first seven qualities. The United States is considered the best customer, and it therefore seems surprising that American purchases should not be made directly on the spot, or through Constantinople instead of through Vienna. Owing to the great demand from the United States last year, the local market was exceptionally high, but the financial crisis in the fall brought prices back. It is estimated that the annual exports amount to 5,000 cases, of a value of about $260,000.

If these mines were developed, they would be an important source of income to this Empire. Derindje, in the Gulf of Ismidt, which is connected by the Anatolian Railway line with Eski-Shehr, is the port of shipment for meerschaum. Shipments for Austria are sent via Trieste and those for France via Marseille. Germany buys only the wasters, which are shipped via Hamburg.

MINES AND MINERALS.

THE COAL TRADE.

BRITISH INDIA.

LARGE INCREASE FROM NATIVE COLLIERIES, AND ALSO IN IMPORTS.

Consul-General William H. Michael, of Calcutta, forwards the following report relating to the production, transportation, and imports and exports of coal in British India:

Official returns for 1907 show that while mining in India has developed considerably during the last two years, it is still in its incipiency. It is very plain that there is a dearth of expert miners and that much of the machinery used is of the crudest character. There were 151,983 persons working in the mines, of whom 98,823 worked under ground and 53,159 on the surface, viz: 96,769 adult males, 49,116 adult females, and 6,098 children under 12 years of age. This was an increase of 23,317 workers over the previous year, and the increase would have been larger had the supply of labor been equal to the demand. The inspector expresses the opinion that with the extension of the mines the labor question will become very serious. There are difficulties now that cripple the output of the mines, and it is believed that these difficulties will increase and become acute. He lays great stress on the ease with which miners are frightened away from mines by the most unimportant accidents, and he thinks this will increase as the mines become deeper.

OUTPUT, EXPORTS AND IMPORTS, AND DIVIDENDS.

The yield of coal in 1907 was 10,526,468 tons, an increase of 15.51 per cent over 1906. Of this 9,993,348 tons, or 94.93 per cent, were raised in Bengal, exceeding the output of the preceding year by 1,375,528 tons. These figures put India at the head of the coal producing dependencies of the British Empire. The principal increase comes from the Jharia coal field, where the output has gone over 1,000,000 tons. Owing to the demand being greater than the supply, high prices were maintained throughout the past year. The dividends of the mine for 1907 amounted to 25 per cent, while other mines paid 7 and 12 per cent. There is no reason to conclude that these dividends will fall off to any considerable extent while the demand for coal exceeds the supply.

There are good opportunities for investment in coal lands in India, and the development of new mining properties, which are worth considering.

The exports of Indian coal to Indian ports, principally from Calcutta to Bombay, Karachi, and Madras rose from 1,830,000 tons in 1906 to 1,870,000 tons in 1907, and those to ports outside India,

including Burma, principally from Calcutta to Rangoon and Ceylon, fell from 1,394,730 tons to 1,040,240 tons.

The imports of coal from the United Kingdom increased from 199,220 tons to 227,180 tons, and those from other countries from 27,150 tons to 74,410 tons.

The total quantity of Indian coal consumed by railways during 1907 increased from 2,880,000 tons to 3,340,000 tons, and the amount of foreign coal consumed rose from 37,280 tons to 54,860 tons.

The traffic in coal carried by railways increased from 11,190,000 tons in 1906 to 12,190,000 tons in 1907, while the earnings therefrom fell from $10,733,000 to $10,600,000. The decrease in the earnings, with an increase in the tonnage carried, were due principally to the reduction in the coal rates for distances over 200 miles.

UNITED KINGDOM.

COAL-CUTTING MACHINES IN BRITISH AND AMERICAN MINES.

The following information concerning the use of coal-cutting machines in British and American mines is furnished by Consul Frank W. Mahin, of Nottingham:

Though coal-cutting machinery was introduced into the United Kingdom as long ago as fifty years, its use showed slight development till the present century, and even now the number of machines in operation is relatively small. At the beginning of this century about 150 British collieries used cutting machines, the total number being about 400; now about 400 collieries are using 1,800 machines. Over half are operated by compressed air, the rest by electricity. In 1900 barely 1 per cent of the total British coal output was cut by machines; now the proportion is 5 per cent.

These numbers and proportions can be best appreciated by comparison with the United States, where, in 1906, according to official figures, over 10,000 machines were in use, cutting 35.1 per cent of the total coal product. The mean annual output per machine was 11,638 tons, while in Great Britain the average is placed at 8,630 tons. The excess in the United States is supposed here to result from the use of different machines and systems of cutting. The more general use and more rapid development of machines in the United States is attributed, on British authority, to the different arrangement of seams in the mines and the higher cost of manual labor. The slow development in this country is laid to the prejudice of workmen against machines, the cheapness of manual labor, and certain natural features of mines. The inferiority of the primitive machines also created a barrier of conservatism among mine owners which is now hard to break down.

PROSPEROUS WELSH COLLIERIES.

OPERATORS AND LABORERS REAPING BENEFIT OF PROSPERITY.

Consul-General Robert J. Wynne, of London, forwards the following clipping from the London Telegraph bearing on the exceptional prosperity of collieries of Wales:

Recently published reports of Welsh colliery owners show that large profits have been made during 1907 and the first half of the present year. In some cases the sums made have even exceeded those of the great boom period of 1900–1901, and if the average profit for all the collieries in the Welsh coal field could be

ascertained it would be found that the twelve months ended June, 1908, were the most prosperous in the history of the coal fields.

One company in 1908 paid 20 per cent, and holds a redemption fund large enough to pay off all its debentures. During the last five years another company paid dividends amounting in the aggregate to 90 per cent. The company's capital and debentures amount to $1,167,960, and besides paying the above dividends they have accumulated a reserve of $656,977.

The workmen have also benefited by the prosperity. Since December, 1907, they have been receiving the maximum wage of 60 per cent above the standard rates of 1879, and there is a probability that they will continue to receive this high rate throughout the present year.

GERMANY.

BRITISH COAL CROWDING OUT THE HOME PRODUCT IN THE KINGDOM.

Consul-General Richard Guenther, of Frankfort, supplies the following information concerning the competition of British coal in Germany with the home product:

Since the German iron trade and other large coal-consuming industries have diminished their coal consumption, owing to business depression, the coal trust, so as not to accumulate too large a stock, has made strenuous efforts to increase its sales of coal and coke in the foreign markets, and to enlarge sales at home by making stronger competition to English coal. In spite of the lessened consumption of coal in Germany the imports thereinto of British coal have scarcely diminished, the latter crowding out the product of the trust wherever it can be carried along waterways. Even the Government has in part used English coal for its railroads. Of the average annual receipts of coal at Hamburg more than two-thirds come from England, and less than 2,500,000 tons are native product. The city of Berlin consumes 1,100,000 tons of English coal annually against 480,000 tons furnished by the German coal trust, and the furnaces and iron works which in recent years have been established along the German coast line get almost all of their coal from England.

The German coal-mining interests desire that the Government grant them preferential freight rates on railroads and canals so that they can successfully compete with and check the consumption of British coal in Germany.

BELGIUM.

ACCIDENTS IN THE COAL MINES OF THE PROVINCE OF LIEGE.

Consul H. Abert Johnson supplies the following information concerning the accidents in the coal mines of Liege in 1907:

The year 1907 seems to have been rather an unlucky one for the coal mines of the province of Liege. The number of workmen killed in the interior of the mines was 39, being 11 in excess of the number killed in 1906. This was largely due to an accident which occurred at the Angleur mine, on April 29, 1907, when fifteen miners were killed through encountering an old flooded mine. Another serious accident, in which four miners lost their lives and ten were more or less seriously injured, occurred at the Collard mine during the ascent of a gang of workmen. Some part of the hoisting apparatus gave way and the cage fell to the bottom of the pit.

A serious accident occurred at the Grand Makets mine, owing to a cave-in; the work of rescue was long and difficult, yet all but two of the entombed miners were taken out alive. With the exception of

this particular accident, disasters due to caving-in, landslides, etc., were much less frequent and severe than during the previous years. But one victim from asphyxiation by fire damp was reported during 1907.

The proportion of coal miners killed out of every 10,000 workmen employed in the mines was 15.10 in 1907, against 10.87 in 1906, and 9.97 in 1905.

ALGERIA.

IMPORTS OF COAL, AND HOW IT IS PRINCIPALLY CONSUMED.

The following information concerning the coal trade of Algeria is furnished by Vice-Consul Louis L. Legembre, of Algiers:

The total imports of coal into Algiers amounts to about 600,000 tons a year, which is consumed principally as follows, in the order of consuming importance: Steamships, railways, gas companies, and local industries.

The railway companies use patent fuel (briquets) from Cardiff or Newport and the gas company uses coals from Durham. The prices at which the local industries buy their coals, per metric ton, delivered at Algiers, are as follows: Briquets, $6.20 to $6.75; house coal, screened, $7.15; forge coal and large Welsh coal, $6.20 and $6.75, respectively.

The current contract price now ruling at Algiers for the supply of steamships is $5.30 per ton, which includes private rebates to owners and commissions to agents, amounting to about 50 cents per ton.

The importation of coke is practically a negligible quantity; it is computed at approximately 1,500 tons per annum, and is taken up by the foundries. Furnace coke is supplied by the gas company. The prices are the same as those of coal.

As a trial, four or five cargoes of American coal were imported into Algiers some four years ago, two of which went to the gas company, the remainder to a local coal merchant. It would appear that the objection to American coal is its small size and liability to spontaneous combustion.

[A list of coal merchants in Algiers in on file in the Bureau of Manufactures.]

SUMATRA.

PRODUCTION OF COAL BY THE GOVERNMENT MINES.

Consul B. S. Rairden sends from Batavia, Java, the following report showing production of the Ombilin coal mines owned by the Dutch colonial government on the west coast of Sumatra for the year 1907:

The total output of coal for the twelve months was 288,969 tons, the monthly production having ranged from 20,013 tons in August to 26,322 tons in April. At the close of 1907 there were 6,000 tons of coal on stock at Emma Haven, the Government harbor at Padang, Sumatra, and a godown of a capacity of 8,000 tons was nearly completed. This coal was selling at Emma Haven at the close of the year at 13½ florins ($5.43) per ton. Steamers using this coal to advantage have to make a slight alteration in their furnaces, as shown by the blueprint transmitted herewith [and filed with the Bureau of Manufactures].

BRIQUETTE MAKING.

UNITED KINGDOM.

NEW SWEDISH INVENTION TO BE TRIED WITH PEAT.

In stating that considerable money has been expended on Dartmoor and the Goss and Tregoss moors in England in attempts to convert peat into a marketable commodity on a large scale, Consul Joseph G Stephens writes from Plymouth of a present apparently successful invention:

The peat is employed on the moor and its immediate vicinity as fuel, but the various processes hitherto tried with a view to adapting it for use as a fuel in rivalry of coal in the towns, or for putting it to other useful purposes, have hitherto ended in large losses. A new method is, however, being put forward according to a local journal under which, it is claimed, peat may become a very valuable commodity. The inventor is a Swedish scientist [name on file at Bureau of Manufactures] who has been engaged in experiments for years and has now reached the stage when a large factory plant has been put in operation.

The process is very simple. The peat, as obtained from the bog, is first of all pulped into a homogeneous mass. It is then heated under pressure to a temperature above 150° C., after which the water is pressed out by mechanical means. The residue is formed into briquets in the usual way. It is because of the heating of the mass to so high a temperature that the peat ceases to hold water in the same way as at lower temperatures. By mechanical methods it is almost impossible to eliminate water from peat at ordinary temperatures, but by the process named the separation takes place quite easily. As to the comparative value of the peat briquet, it is claimed that 6 pounds will give as much heat as 4 or 5 pounds of good coal. It is said that the manufacture of fuel from peat by this process can be carried on uninterruptedly year in and year out, and that in the matter of price peat fuel would be much cheaper than coal.

CANADA.

GOVERNMENT INVESTIGATES UTILIZATION OF FUEL DEPOSITS.

The Canadian Department of Mines has published a volume on "The Manufacture and use in Europe of Peat and Lignite," prepared by E. Nystrom, M. E., a copy of which has been received from Consul-General John G. Foster at Ottawa.

The investigation was undertaken because of the large areas of peat bogs in Canada, the estimated amount being 37,000 square miles. Of this, 25,000 square miles are located in Alberta, Saskatchewan, and territories. The average depth of the deposits is from 5 to 10 feet. The Moose River basin of Ontario has 10,000 square miles of such deposits, while the other areas are scattered through different provinces, of which many average 8 to 10 feet deep. The book referred to covers investigations in all of the European countries, and is very comprehensive, embracing the utilization of these resources not only for fuel purposes, but as moss litter, peat mull, etc.

Attention is called to the fact that "the coal deposits in Canada are situated in the east and westerly provinces, leaving the interior provinces practically dependent on the coal mines of the United States, the disadvantage of which was strongly felt a few years ago, when, on account of the strike at those mines, the available coal supply was seriously curtailed and enormous prices had to be paid." The manufacturing into briquets of peat and lignite in Canada, it is figured, would largely curtail the importations of coal, which amount to about $20,000,000 a year.

ROUMANIA.

PETROLEUM BRIQUETTES IN EUROPEAN OIL FIELDS.

Consul-General Norman Hutchinson reports from Bucharest that, according to information received, a new invention has been made by a native of Galicia, whereby the demand for coal for domestic purposes will be greatly diminished. The inventor, an engineer in railway employ, has made a combination of crude petroleum, cinders, and sand, into bricks or briquettes, which may be used as fuel by any household in place of coal, a hundred kilos (220.4 pounds) to cost only $1. A society has been formed for the purpose of manufacturing these bricks, with a capital of 1,000,000 Austrian crowns ($203,000), and a factory is to be placed in operation at Florisdorf. It is understood that large contracts for the purchase of petroleum have already been signed.

MINING OPERATIONS.

MEXICO.

PROPOSED LAW LIMITING THE PRIVILEGES OF FOREIGN COMPANIES.

Much interest being manifested in the proposed new mining laws of Mexico, Consul E. E. Bailey, of Ensenada, sends a copy of those features of vital importance:

ARTICLE 141. No title deed for mining property can be issued to foreigners denouncing properties within the bounds of border States, if they do not previously obtain a special permission from the executive of the union. This requirement will also be exacted when the denouncement is made conjointly by foreigners and Mexicans. If the permission is refused, the ground shall be declared free, and the same effects as those consequent voluntary abandonment of a denouncement, as set forth in article 36, will follow.

ARTICLE 142. The permission mentioned in the foregoing article will also be necessary in order that foreigners may through any other process come into possession of mining properties or liens thereon in any of the border States or Territories.

ARTICLE 143. The rules of practice will determine the periods of time within which the permissions mentioned in the two foregoing articles must be solicited and the conditions subject to which they may be granted.

ARTICLE 144. Foreign corporate bodies are incapable of denouncing and acquiring henceforth, by any process, either mining properties or liens thereon within the territory of the Mexican Republic.

Consul Bailey adds the following comments:

The foregoing articles are parts of a new proposed mining law. A commission of five has been appointed to revise the present or formulate a new law. By article 144 no foreign corporation can acquire mining property in any manner.

The objections Americans make to incorporating under Mexican laws are: First, all the capital stock is required to be subscribed

before incorporation. Second, directors and officers citizens of Mexico, with headquarters in Mexico. Third, small protection for minority stockholders. These are some of the objections claimed against the Mexican incorporation law.

Practically all miners' and mining claims are for sale—at a price. Practically all buyers of Mexican mining properties are foreigners. If these buyers are barred from purchase, values would apparently be sure to shrink. This law would be retroactive, in that should the vein fault and continue outside the boundary of the property, being worked under the present law, the owner would be barred from acquiring it. It would also be in a manner confiscatory, in that the largest class of purchasers being prohibited would reduce values. The law can be made operative by executive order or by act of Congress. It is generally thought that it will be submitted to Congress the coming session. The law has powerful and influential advocates as well as opponents.

WHITING DEPOSIT.

AMERICAN COMPANY ORGANIZED TO DEVELOP A RESOURCE OF CAMPECHE.

In noting the report that a large bed of whiting, a necessary ingredient in the making of certain classes of commercial paint, has been uncovered on a sisal plantation in the State of Campeche, Consul-General Benjamin H. Ridgely writes from Mexico City:

Whiting is a staple article of commerce and is used in the arts in many different ways, an immense amount being consumed annually. Putty is made of whiting, and it is an ingredient of linseed oil; the rubber trade uses a large amount as a filler; molding manufacturers are large consumers; whiting is the base of calcimine and it is used in fine paints.

The present market is supplied by a syndicate which brings the raw material from England and sells it at from $30 to $40 a ton. It is claimed for the Campeche product that it is superior to the English; that it is free from limestone, high in calcium carbonate, and low in iron. The analysis given by the chemists previously mentioned has caused some of the largest paint houses in the United States to look into the Campeche bed.

A company with headquarters at Mobile, Ala., has been organized to exploit the deposit, which is said to be 1,200 yards long by 450 yards wide, with a depth of 2 yards. Experts say that there are at least 1,000.000 tons of whiting in the deposit. After a careful calculation of the cost of marketing, the company has decided that it can put its product into Chicago, the largest single market in the country, at much below the English supply.

RUSSIA.

ASBESTOS MINING INCREASING—COPPER PRODUCTION.

Consul J. W. Ragsdale, of St. Petersburg, has prepared the following information in regard to Russian mines and minerals:

Asbestos mining in the Urals has grown very appreciably of late years. The amount produced in 1907 aggregated 571,194 poods (pood=36.112 pounds.)

The correspondent of the Torgovo-Promyshlennaya Gazeta at Helsingfors writes that a large American-Finnish company is being

formed to exploit Finnish ore. The enterprise is founded on a solid basis, and operations under it will begin with the Kirkelyask iron mine in Lapland, the copper pyrite deposits at Kontgulaksin Karel, and at Oriarvi-Bredtorp in the government of Finland.

The production of copper in Russia for the first quarter of 1908 is fully up to the production during the same months in 1907. Copper smelted in the Ural factories, January to March, inclusive, amounted to 140,529 poods; Caucasian factories, 81,291 poods; Siberian and Kirghiz factories, 28,959 poods; in the chemical and refining works, 10,368 poods, making a total of 261,147 poods. The total production for the year 1907 was 902,354 poods.

The Minister of Trade and Industry has approved the report of the mining department in regard to the preparation of a detailed geological chart of the Donetz coal basin, as well as for searching for naphtha in the Caucasus, and has decided to set apart for this purpose the sum of 26,985 rubles (ruble=51.5 cents). A late report shows that 1,046,000,000 poods of minerals of all kinds were dispatched from the Donetz basin alone in the year 1906.

PREPARING MINING EXPERTS—IRON ORE EXPORTED—TIN MINES IDLE.

Upon the initiative of the director of the Mining School of St. Petersburg, the council of professors has decided to start as a new section, geological prospecting, for preparing engineers who are specialists in prospecting various ores and examining crystals. Professors Fedorov, Bogdanovich, Nikitin, Yakovlev, and others, will be at the head of this department. The necessity of such experts in Russia has long been felt. The meeting of geologists which took place in 1903 stipulated for the creation of such a line of study, and this decision seems to be near realization.

The Mining Journal of London has recently published some very interesting facts with regard to the amount of iron ore exported from Russia to foreign countries. Six years ago, in 1901, it scarcely exceeded 1,250,000 poods, but increased from that time to 1907, when the amount exported aggregated 54,905,000 poods. Classifying the export of the last two years (1906–1907) to different countries, the amount in poods was as follows (pood=36 pounds):

Countries.	1906.	1907.	Countries.	1906.	1907.
United Kingdom	10,969,000	22,552,000	France	332,000	811,000
Germany	11,439,000	20,042,000	Italy	.....	24,000
Holland	4,980,000	7,843,000	Denmark	66,000	.....
Austria-Hungary	1,038,000	3,218,000	United States of America	.....	415,000

At the conclusion of its review on the world situation of the tin industry the Veistnik Finansov adds:

The tin question is a serious one for Russia. At the present moment, with the final stopping of the Pitteiranti tin-smelting works, this industry becomes completely suppressed in Russia, and that just at a time when tin is getting so valuable. The quantity of tin imported into Russia in 1904 was 301,000 poods, of the value of 5,730,000 rubles. Therefore it was most desirable that a tin industry should be a feature in Russia. At the Pitkransk deposits such would not be possible, for the tin there is only obtainable along with other useful minerals in very small quantities. Therefore very serious attention should be paid to the tin deposits of the Transbaikal region on the Asian River, which but now have sufficiently prospected, and in both quantity and quality are hardly surl by any known tin deposits.

VALUABLE PLATINUM DEPOSITS—A RICH MINING ESTATE.

In a review of the mining situation in the Urals, the Ekaterinburg correspondent of the Novoe Vremia deplores the indifferent technical efficiency of the mining enterprises there, and, enumerating the various countries that are taking possession of Russia's mineral wealth, makes the following interesting observations on the platinum position:

The finest platinum deposit in the whole globe is also passing out of Russian hands. A large share of the workng of platinum has already fallen into the hands of share companies headed by foreigners, and the production of platinum in the mining works has been secured by Englishmen and Americans; such large factories as the Taghil, Demidov, and Schuvalov have sold all their production of platinum for a period of years to foreigners for £1,200 (£=$4.86) per pood, whereas it is now worth on the exchange £3,000 per pood. The iron works are also being alienated. Russians still retain the Strogonov, Verchne-Issetsk, Stenbok-Fermor, Taghilsk, Demidov, Alapeev, Yakovlev, Systersk, Solomirsk, and Turchaninov, etc., factories.

Of the total amount of platinum produced in the world, 90 per cent comes from Russia. The following table shows the yield of Russian mines for the ten years ending 1906 and its value in rubles per pood:

Year.	Poods.	Rubles.	Year	Poods.	Rubles.	Year.	Poods.	Rubles.
1897	342	3,717	1901	389	11,000	1905	326	17,450
1898	367	4,571	1902	374	15,900	1906	352	34,000
1899	363	5,628	1903	367	13,700			
1900	311	6,700	1904	306	15,400			

ALGERIA.

OUTPUT OF THE PRINCIPAL MINES OF THE COLONY.

The following information concerning the mining industry of Algeria is furnished by Consul James Johnston, of Algiers:

The output of the principal mines of Algeria in 1907 was as follows: Hematite, 341,917 tons; protoxide of iron, 36,908 tons; calamine, 8,902 tons; blende, 2,387 tons; total, 390,104 tons.

The analyses of the output are given as follows in percentages: Calamine, 38.10 and 37.50 for the two mines worked; blende, 47. Iron ores in general average 50 per cent, and are pure, the ore of one mine being very siliceous.

The prices per metric ton f. o. b. Algiers in 1907 were as follows: Iron ore, on a basis of 50 per cent, averaged $2.90; calamine, $19.20 and $19.87 for the two mines worked; blende, $26.82.

It would appear that the recent drop in the price of metals has considerably affected the Algerian mining market, the actual market value of calamine (June 22, 1908), basis 40 per cent, f. o. b. Algiers, per metric ton, is $15.44; that of iron ore, basis 50 per cent, $2.31.

BRITISH INDIA.

GOOD OUTLOOK FOR THE DEVELOPMENT OF MANGANESE INDUSTRY.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the manganese mines of British India:

The output of manganese shows substantial increase, having risen from 436,442 tons in 1906 to 642,082 tons in 1907. Of this over

496,000 tons were raised in the Central Provinces, which have increased their output by 170,000 tons. The tract of country in the Central Provinces alone over which manganese deposits exist covers 3,500 square miles, which will give some idea of what this industry will develop in the near future. "Chemically," says the chief inspector of mines, "the ore is one of the richest and purest mines in the world. The percentage of manganese varies from 50 to 55, while the phosphorus contained is low."

From 10,000 to 15,000 coolies are employed in the manganese mines of the Central Provinces, where the rate of wages has advanced fully 50 per cent within recent years. There are good opportunities for investment in manganese lands in India and in the development of new mining properties.

METAL GOODS.

IRON AND STEEL.

GERMANY.

BRITISH VIEW AS TO COMPARATIVE OUTPUT AND COST OF PRODUCTION.

The following comparative statement of the condition and prospects of the steel trade in England and Germany was prepared by the Sheffield correspondent of the Yorkshire Post. It is considered of enough interest by Consul Walter C. Hamm, at Hull, to be brought to the attention of the steel producers in America:

At a moment when considerable quantities of German steel are finding a market in this country, and when the possibilities of future competition are provoking anxious speculation, it will not be inopportune to review the progress, position, and prospects of Germany's iron and steel trade from a British standpoint. Germany's productive progress may be seen at a glance in the following figures, showing the production of pig iron in millions of tons:

Year.	The world.	Great Britain.	Germany.	Year.	The world.	Great Britain.	Germany.
1880-4 averages	20	8.1	3.3	1902	43	8.6	8.5
1885-9 averages	25	7.5	4.3	1903	46	8.8	10.0
1890-4 averages	28	7.3	5.0	1904	44	8.5	10.1
1895-9 averages	36	8.7	6.9	1905	53	9.5	10.9
1899	38	9.4	8.1	1906	59	10.1	12.2
1900	41	8.9	8.5	1907	60	9.9	12.8
1901	40	7.9	7.8				

Between 1897 and 1907 Germany very nearly doubled her production of iron, and increased her exports of iron and steel more than threefold. Here are the export figures:

Year.	Great Britain.	Germany.	Year.	Great Britain.	Germany.
	Tons.	*Tons.*		*Tons.*	*Tons.*
1897	3,318,000	1,069,000	1903	3,209,000	2,940,000
1898	2,902,000	1,279,000	1904	3,266,000	2,770,000
1899	3,368,000	1,129,000	1005	3,721,000	3,349,000
1900	3,213,000	1,155,000	1906	4,682,000	3,674,000
1901	2,617,000	1,917,000	1907	5,166,000	3,452,000
1902	3,241,000	2,832,000			

It must be noted that the recent increases in our exports have been mainly in the shape of pig iron, with but relatively small increases in more highly finished goods, whereas Germany has lessened her exports of pig iron, billets, etc., and increased her exports of more highly finished products. Last year 1,947,000 tons of pig iron were included in our exports—more than one-third of the total weight—against 275,000 tons of pig iron exported from Germany, or less than one-twelfth of the whole. Until quite recent years most of Germany's iron exports took the form of raw or semimanufactured material, but in the last two years they have taken on the following shape:

	1906.	1907.		1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Pig-iron	479,772	275,170	Sleepers and fastenings	165,047	206,940
Blooms, billets, etc	366,359	227,332	Wheels, axles, etc	62,985	74,788
Joists, tees, and angles	478,049	441,032	Bars	384,240	392,148
Wire	217,418	196,581	Plates and sheets	267,246	268,992
Galvanized wire	109,943	110,959	Tubes	71,504	89,695
Rails	369,269	416,694	Wire nails	67,240	69,173

The growing competition indicated in these figures, together with the fact that we are importing German steel and steel goods while many of our own furnaces and men stand idle, provides food for thought. How comes it that German competition is such a disturbing factor? Let us get down to the bedrock facts. To begin with, Germany's minerals are no better and no cheaper than ours. Indeed, we hold a marked advantage over our rivals in the matter of raw minerals. We get our coal cheaper. And we can assemble coal and iron ore at furnaces at a less cost than our competitors can. We have coal and ore deposited practically in the same beds or within very easy distance one of the other. In Germany the ore is deposited far from the coal. The average haul for iron-making materials is about 150 miles in Germany against 30 miles or less in this country. It costs about $1.46 per ton to carry ore to smelters in Germany, while it costs in few cases more than about 36.5 cents here. The relative cost of transit for fuel may be gathered from the following figures, taken from Mr. J. Stephen Jeans's "Iron Trade of Great Britain." It gives the approximate freight rates per ton of coal or coke from mines or ovens to blast furnaces:

Great Britain:		Germany:	
Cleveland	$0.49–$0.73	Westphalia	$0.365–$0.49
South Wales	.24– .365	Lorraine	1.46 – 1.70
Scotland	.24– .365	Luxembourg	1.46 – 1.70

Such is the cost of raw materials and such is the cost of assemblage at furnaces in Germany that it is impossible for that country to produce pig iron so cheaply as we can. The cardinal point in the problem of iron and steel manufacture is the prime cost of pig iron. That country with the cheapest pig iron available ought to fear no competition in the steel trade. That country is Great Britain. Taking first a period of five years, covering a boom and a depression, we get these figures:

	Germany, No. 1 foundry.	Great Britain, Scotch warrants.
	Per ton.	*Per ton.*
1900	$23.36	$16.87
1901	24.82	13.08
1902	15.82	13.26
1903	15.45	12.71
1904	14.68	12.51

Here was an average price of $18.82 in Germany against $12.96 in Great Britain. Coming to more recent dates, we have these figures:

	Germany.	Great Britain.
	Per ton.	*Per ton.*
January, 1906	$17.76	$14.21
January, 1907	20.68	15.98
December, 1907	17.76	14.25
June, 1908	17.52	12.53

Not only does it cost Germany more to get her minerals, and more to assemble them at furnaces—which means higher prime costs for pig iron and steel—than it costs us, but when the furnaces and mills turn out their finished products, those products, if for export, must be conveyed a much longer distance to a port of shipment than is the case here. In this country we have coal, ore, furnaces, and shipping ports practically side by side—a combination of natural and geographical favors not to be found elsewhere. Why, then, should German or any other competition alarm us? There is certainly nothing fundamental in the iron-making resources of Germany to enable that country to beat us, and whenever and wherever the Germans have succeeded in underselling us, either in our own or neutral markets, their success has been due, not to neutral favors, but to more careful technical training, more diligent attention to business opportunities, and a more highly organized system of sales than has yet been adopted by ourselves. The lesson for this country is plain and unmistakable.

AUSTRIA.

PRODUCTION AND CONSUMPTION COMPARED WITH GERMANY.

Consul Joseph I. Brittain sends from Prague the following report from the Prager Tagblatt, showing the condition of the Austrian and German iron business and how conditions have changed:

Although the Austrian steel trust only makes regular returns of the home consumption of rods, bars, beams, black sheets, and rails, it has been ascertained from reliable dealers that the sales of other classes of iron have also considerably increased. The deliveries in Austria for the first six months of the present year show an increase of 43,601 tons, or 15 per cent increase, as compared with last season covering the same period.

Owing to the reduced prices prevailing in other countries, the Austrian manufacturers have not pushed their export trade. One reason why the Austrian steel industry has been more prosperous is owing to the increased demand for rails. The sale of rails has increased 18,424 tons, or about 52 per cent, thus far during the year. This is accounted for largely on account of the building of new railways and the improvement of other lines.

During the past few years negotiations between the Government and the railways owned by private capital have been pending, and while the sale of the private lines was being negotiated needed improvements were neglected. Recently the Government bought several of these private lines.

In Germany and Belgium there has been a large falling off. During the first half of this year the German steel trust will probably show deliveries amounting to 900,000 tons less than were made during the same period last year.

The steel business for the three countries during the first half of 1908 is given as follows: Austrian home consumption, 333,602 tons, increase 43,601 tons; deliveries of the German steel works, finished products, 2,455,084 tons, being a decrease of 478,005 tons, or $16\frac{3}{10}$ per cent; crude production in Germany, 6,049,721 tons, decrease 306,232, being a decrease of $4\frac{8}{10}$ per cent. Belgium's production is placed at 578,380 tons, being a decrease of 130,440, or $18\frac{4}{10}$ per cent.

BRAZIL.

AMERICAN INATTENTION TO THE TRADE IN CORRUGATED SHEETS, ETC.

Consul-General George E. Anderson writes from Rio de Janeiro that the imports of corrugated sheet iron and steel into Brazil in 1907 increased nearly 50 per cent over the imports of such goods in 1906, and that in spite of a general falling off in Brazilian imports during the first half of 1908 over 1907 the general increase in imports of such goods has continued. Mr. Anderson details this trade as follows:

The total value of the imports of both iron and steel goods of this class in 1907, no distinction being made in the trade returns between the iron and steel product, was $846,961. Of this amount Great Britain sent goods to the value of $743,456 and Germany to the value of $63,660, other countries sending the balance. Of such imports the port of Rio de Janeiro took about 25 per cent, Santos-Sao Paulo 20 per cent, Port Allegre about 15 per cent, and the rest was rather evenly scattered among other ports.

The galvanized sheet-iron and steel goods are generally used in Brazil for purposes similar to common uses elsewhere, but they have been found exceptionally well adapted for temporary structures like houses and offices for forces engaged in great construction enterprises, a large number of which are now in course in Brazil. Roofs in Brazil

must be of tile or metal or similar material, the damp climate making the use of any form of wood inadvisable. Lumber is very expensive, and when used for out-of-door construction lasts but a short time. For this reason the use of sheet metal for all temporary construction is common now and is likely to continue so.

EUROPEAN COMPETITION CAN BE MET.

American exporters have given this trade no attention whatever. There is no reason why American goods of this class should not be sold here if European competition can be met in ordinary market considerations.

There has been something of an increase in Brazilian imports of ordinary iron and steel rods, bars, and sheets and in steel goods of the same class, though the increase is not so great as in the corrugated and galvanized goods. Practically all of such goods are coming from Europe, Great Britain leading in steel bar and rod, with about $225,000 out of $380,000 imported in 1907, with Germany and France following with shipments worth about $59,000 and $43,000, respectively. In iron bar, rod, plain, and sheet Germany leads with $412,-246, followed by Great Britain with $356,696, Belgium with $236,564, and Sweden with $110,424, and other countries $22,394, making a total for the year of $1,138,324.

The mills of the United States have secured no more of this business than they have chiefly because of the unwillingness to roll goods for small orders such as make up the bulk of the business here.

CHILE.

GERMANY STILL LEADS IN THE RAPIDLY GROWING IMPORTS OF WIRE.

Consul Alfred A. Winslow, of Valparaiso, reports that during 1907 there was a great increase in the imports of steel and iron wire into Chile over any previous year, as his statistics show:

The following table gives the quantities in metric tons of 2,204 pounds and value in United States gold from each of the supplying countries for the years 1905, 1906, and 1907:

	1905.		1906.		1907.	
	Tons.	*Value.*	*Tons.*	*Value.*	*Tons.*	*Value.*
Belgium	520	$38,033	844	$61,645	1,584	$175,694
Germany	4,838	353,185	3,874	282,804	6,656	485,912
Great Britain	1,001	73,108	773	56,465	1,978	144,419
France	12	922	79	5,716	77	5,621
Holland	.....	.....	4	336	.....	.....
United States	2,430	177,418	2,104	153,605	4,995	364,686
Total	8,801	642,666	7,678	560,571	15,290	1,176,332

From this table it is clear that American producers are not getting the portion of this growing business they should have. Some energetic work would show big results. The field has not been thoroughly covered.

I am not able to say just what proportion of this was barbed wire, but from the best information obtainable the most of that from Europe was plain wire. Barbed wire is not yet very generally used for fencing in many parts of Chile. There is no duty on wire.

BELGIAN ZINC INDUSTRY.

PRICES AND PRODUCTION GRADUALLY INCREASING.

Consul H. Abert Johnson, of Liege, forwards the following report on the production of crude zinc and zinc plates in that consular district of Belgium:

During 1907 the ten zinc works of this province produced 129,010 metric tons of crude zinc, valued at $14,705,934. The average price per ton fell from $128 to $114, representing a shrinkage of 11¼ per cent, while the total production experienced a trifling increase of 300 tons. The following table shows the fluctuations in prices and production during the past fifteen years:

Year.	Tons.	Price per ton.	Year.	Tons.	Price per ton.
1893	87,766	$79	1901	114,624	$81
1894	87,381	72	1902	112,537	88
1895	96,944	69	1903	118,420	100
1896	100,819	78	1904	122,886	107
1897	103,885	82	1905	127,455	121
1898	107,406	96	1906	128,620	128
1899	110,434	117	1907	129,010	114
1900	106,910	96			

As seen from the foregoing table, the production of zinc reached a maximum in 1907; with the exception of a slight reduction in the output in 1894 and larger ones in 1900 and 1902, the production has shown a steady increase during the period under consideration. The increase from the first year cited to the last is something like 41 per cent. On the other hand, the maximum price was recorded in 1906.

The following table shows the countries of origin of the zinc ore consumed:

Country.	1905.	1906.	1907.
	Tons.	*Tons.*	*Tons.*
Belgium	3,265	2,630	2,235
Italy and Sardinia	65,089	71,840	69,480
France	33,769	33,627	23,807
Sweden and Norway	26,302	25,437	24,203
Germany	8,822	7,605	10,200
Spain and Portugal	56,025	61,408	62,299
Algeria and Tunis	51,430	42,905	42,754
Greece	6,385	4,919	6,773
Australia	30,551	38,974	54,807
England	10,011	4,821	2,815
Russia	1,580	648	359
Turkey	508	850	166
America	18,914	21,553	12,615
Japan	2,626	11,353	16,981
China	169	16	642
Africa	.....	.....	459
Other countries	1,059	184	.....
Total	316,505	328,770	330,595

As seen by this table, the consumption of Australian ore in 1907 shows an increase of more than 40 per cent. The consumption of Russian ore has shown a marked decline, while importations of ore from Japan have rapidly increased. Notwithstanding the fluctuations in the quantities consumed from year to year, it is seen that Italy and Sardinia on the one hand, and Spain and Portugal on the other, supply the bulk of the ore used in these works.

The average price of zinc plates has fluctuated as in the case of crude zinc, but not to such a marked extent; it fell from $140 to

$132, a decline of $8, in 1907, as compared with the price in 1906. The total value of the entire production was $5,574,429, or $272,786 less than in 1906.

The nine zinc-plate works in this district produced in 1907 42,340 tons of zinc plates, representing an increase of 495 tons as compared with the total production in 1906.

AMERICAN JEWELRY EXPORTS.

EXPANDING TRADE IN VARIOUS PARTS OF THE WORLD.

While imports of jewelry into the United States during recent years have been declining, the exportations of such goods have been on the increase. During the fiscal year 1903 the American purchases abroad of jewelry, manufactures of gold and silver, aggregated $2,007,433, nearly one-half from France, one-fourth from Germany, and one-eighth from Austria Hungary. In 1907 the imports were reduced to $1,779,527. The American jewelry makers are becoming active in the foreign field, as the following statistics of exportations indicate:

	1903.	1905.	1907.
Jewelry	$939,797	$1,033,808	$1,287,111
All other manufactures of gold and silver	353,224	385,417	773,033
Jewelers' sweepings	174,158	48,850	324,103

Canada has been the best market for American jewelry, taking $836,852 worth in 1907, compared with $611,240 worth in 1903, and $378,231 worth of all other manufactures of gold and silver in 1907, against $173,182 worth in 1903. Mexico was also a considerable customer, while Argentina increased her purchases of jewelry from the United States from $4,688 in 1903 to $23,116 in 1907; Brazil from $6,455 to $38,563, and Ecuador, $4,434 to $13,970. Only a small, stationary American jewelry trade was transacted in other South American countries. Cuba, however, purchased $44,294 worth in 1907, against $28,585 in 1903.

The export trade in timepieces has also been active, more than keeping pace with the increase in importations. The statistics for recent fiscal years follow:

	Imports.			Exports.		
	1903.	1905.	1907.	1903.	1905.	1907.
Clocks	$489,626	$486,765	$610,060	$1,001,724	$1,192,246	$1,445,290
Watches	2,182,684	2,479,730	2,983,113	1,041,805	1,124,168	1,723,982

The largest sales of American clocks have been in the United Kingdom, the amount in 1907 being $332,484; Canada, $300,563 worth; Australia and New Zealand, $257,672; British India, $102,743, and about $60,000 each to Brazil and Japan.

In American watches Canada led with purchases to the value of $708,434 in 1907, Japan following with $352,470, the United Kingdom with $291,502, and Germany with $120,818.

American jewelry and timepiece factories are seeking extended markets for their productions, and their inquiries to consular officers have brought interesting reports which follow.

PARAGUAY.

LIMITED PURCHASES—AMERICAN GOODS ALMOST UNKNOWN.

Consul Edward J. Norton, writing from Asuncion, gives the following information of the jewelry trade of Paraguay:

The total imports of jewelry into Paraguay for the year 1905 (the last year for which figures are obtainable), only reached, according to custom-house reports, a total of about $8,000 gold. France supplied the bulk of the goods imported, Germany second, and Switzerland third. The direct imports from the United States amounted to only $450 gold. Imports from the United States were, however, somewhat greater than the figures indicate, as clocks in large quantities were imported by way of Buenos Aires, and import invoices are frequently credited to the flag of the ship on which the goods arrive at seaboard. Paraguay, however, is a very limited buyer of jewelry.

Among jewelers' stocks the only articles of American manufacture noted are alarm and wall clocks. Hall, mantel, and fancy metal clocks come from Germany, Switzerland, and France. Switzerland and France hold the trade in watches.

In watch chains, more plated ware is sold than that of solid metal. Chains are displayed of nearly all the standard patterns and designs, those with plain and chased links, plain and chased curb, and rope designs being most popular. In solid gold watch chains, as well as in plated goods, the double chain is preferred. The cheaper chains usually have lockets or medallions attached. The vest bar is not liked in this country, and all chains have a slide spring ring for attaching the chain to the vest.

I do not think that any special patterns would be necessary as an aid to introducing American goods here. The percentage of gold plate in cheap chains is varied, but the chains usually carry guaranty tags. A five to ten year guaranty is general.

Germany leads in the export of watch chains to Paraguay, France is second, and the Argentine factories stand third in volume of sales. The Argentine chains, while equal in design and appearance to the European chains, are but little cheaper. Argentine manufacturers, however, offer local jewelers the advantage of quick shipment; consequently smaller stocks are carried by Asuncion jewelers.

DISPLAY METHODS—NECK CHAINS AND TABLEWARE.

Chains are usually displayed on velvet or plush covered frames. Elastic cord loops run along the top and bottom of each frame and chains are quickly detached for inspection by unsnapping the vest ring at the top and the watch swivel at the bottom of each frame.

Neck chains are popular. They are of solid and gold plate in the ordinary patterns. In cheap chains, however, the necklaces most preferred are those of beads, coral or imitation coral, amber, amethyst, or imitations of colored stones, both plain and decorated with

gold. Cheap chains are displayed on frames or velvet-covered cards, while solid necklaces are packed in the ordinary jeweler's cardboard box. I think that cheap pearl necklaces in single rows and in strands might sell here. In bracelets the solid gold article is in demand to a limited extent. Plated bracelets are not in demand.

Silver-plated tableware of American manufacture should be introduced here, and would gradually develop into a trade worth having. At present English and German tableware hold this market.

The duty on jewelry and solid gold ware is 5 per cent ad valorem. On plated goods of all kinds the duty is 35 per cent. By reason of cheap goods being rated 30 per cent higher than articles of solid metal, dealers find it less profitable to dispose of plated ware, as the additional duty on these goods brings their cost up out of proportion to the actual value of the articles. Weight of cases and wrappings on all invoices of jewelry for Paraguay should be specified separately.

COLOMBIA.

FAVORABLE PROSPECTS FOR EXTENSION OF THE TRADE.

Consul Isaac A. Manning sends from Cartagena the following information regarding the opportunities for the sale of American jewelry, and especially watch chains, in that part of Colombia:

I have talked with a number of merchants handling these lines here and am sure there is a good sale for this line of goods, and that when economic conditions improve, as they are sure to do in a short time, there will be a chance to increase the trade very considerably.

While the custom-house statistics show a very small import of jewelry, this represents very little of the import, for most of this sort of merchandise comes by registered mail and the records are kept in the post-office. Thus the records of import show but 5 or 6 kilos (kilo=2.2 pounds) of jewelry in a year of all classes of good gold and plated ware. The sale of cheap jewelry is considerable, but it is not an attractive trade, and that which is supplied comes from Europe.

Of the better goods the importations are more largely from the United States, and I am told that the demand is for goods of good quality, the purchaser preferring to pay the price and own something good. Fault has been found with some shipments of watch chains, neck chains, etc., because, while marked guaranteed for five years, the goods soon show black oxidization, and the house shipping them refused to carry out the guaranty.

PREFERENCES OF BUYERS.

There is no necessity that watch chains or neck chains be made up in any special pattern for this trade, except that they should be from small to medium sizes. In watch chains there should be nothing put up except the best heavy rolled plate or filled plate. In most goods 14 karat should be the lowest grade, and especially is this true of ladies' neck chains, which are made short and in small patterns to be worn constantly with keepsake lockets and religious objects. The necessity for making these of strong and good material will be evident when it is known that these are rarely removed from the neck, not even during the bath.

The usual device used on men's watch chains for fastening to the buttonhole is the spring ring, this being generally preferred to the bar, although some bars are sold.

American chains and jewelry of all kinds are popular here, being usually more of the quality required in this trade, being well made, attractive patterns, and seeming to satisfy the taste better than those from other countries.

Goods for this trade should be packed and carded as lightly as possible, as the duties have to be considered. The duty on jewelry, including all packing, is $2.55 per kilo, specific, and an additional ad valorem of 5 per cent. Samples could be purchased here of what is being generally sold, if so desired.

As to the demand for other jewelry, there is a good sale for collar buttons, cuff buttons (these should be in links), and small attractive brooches, and also some demand for bracelets, but generally running to the chain bracelet with the padlock attachment.

There is a good sale for American watches, several merchants here carrying small lines, usually of the standard makes (such as Waltham, Elgin, Illinois, etc.), and the trade prefers a good Boss filled case, or a pure silver case. Sizes should be modern and light. In rings, etc., the demand seems to be generally for small settings in diamonds, or other precious stones, or in signet styles, with monogram on gold plate. These must be good to sell. I am not sure whether anything could be done here with imitation diamonds, but few of them are seen. Genuine diamonds in all manner of settings are common here.

SOUTH AFRICA.

AMERICAN GOODS LACK THE NECESSARY STAMP OF GUARANTEE.

Consul R. B. Mosher, of Port Elizabeth, in the following report explains why American jewelry is not popular in Cape Colony:

Close and open curb watch chains seem to be mostly in demand. The bar is the only thing used. American charms, pendants, and fobs do not sell, which is also true of plated chains. Quite a number of neck chains are sold, all light patterns. American goods are not in demand, due largely to the absence of marks of guarantee. Rolled gold watches are the only staple line in South Africa.

As to selling other kinds of American jewelry, including the extension bracelet, the prospects are not good until some mark of guarantee is adopted, similar to the English hall mark.

For the first six months of 1906 and 1907 the importations of jewelry into Cape Colony amounted, respectively, to $178,722 and $159,105, of which about 90 per cent came from the United Kingdom, 6 per cent from Germany, and one-half of 1 per cent from the United States.

The present duty on jewelry is 15 per cent ad valorem, with a rebate of 3 per cent ad valorem in favor of English goods.

[Lists of jewelry dealers in various parts of the world are listed at the Bureau of Manufactures, where they may be copied by the trade.]

WIRE IN JAPAN.

THE EMPIRE PREPARING TO MANUFACTURE FOR HOME CONSUMPTION.

Consul-General Henry B. Miller, of Yokohama, furnishes the following statistics showing the imports of wire into Japan from the several countries during the year 1907:

Whence imported.	Electric wire.	Submarine and underground wire.	Galvanized wire.	Iron and steel wire and small rods.
United States	$117,201	$19,594	$54,832	$23,663
United Kingdom	323,648	283,944	8,409	134,932
Germany	62,036	309,831	593,554	218,250
France	52,355	53,132	.....	.....
Belgium	.....	.....	53,028	94,439
Austria-Hungary	.....	.....	3,067	27,383
Other countries	9,542	71	571	1,478
Total	564,782	666,572	713,461	500,145

Inasmuch as Japan is a great copper-producing country and exports the raw material in large amounts, it is to be expected that it will soon be manufacturing not only the electric wire required for home consumption, but will be exporting wire to Korea and China, at least.

In this connection the following clipping from a local newspaper should be of interest:

The annual demand for electric wire in Japan amounted to about 8,000,000 yen ($3,984,000) in recent years. Statistics show that 5,000,000 yen ($2,490,000) worth of the same was imported, the remainder being supplied by Japanese wire factories. In view of the growing demand for electric wire, a mining company is now contemplating establishing a wire factory, where copper is abundantly produced, under its own management. Not content with this, the company is reported to have approached a Yokohama electric-wire factory with a proposal to take up half the capital of the Yokohama establishment, and that the latter will thus be worked under joint management. The Yokohama company will convene an extraordinary general meeting, when the proposal will be fully discussed.

GOVERNMENT FINANCIERING.

BANKING AND BUDGETS.

SPAIN.

NEW LOAN OVERSUBSCRIBED MANY TIMES BY PEOPLE OF THE KINGDOM.

According to Consul-General Hill, subscriptions for the new 4 per cent Spanish loan, amortizable in fifty years, to the amount of 160,000,000 pesetas ($27,440,000), opened at Madrid on July 9, 1908, were subscribed 55 times over, indicative of the present financial strength of the country. Mr. Hill writes further:

Of this loan 115,000,000 pesetas ($19,722,500) is to be devoted to paying off former issues of treasury bonds held by the Bank of Spain, leaving available a cash balance of 45,000,000 pesetas ($7,717,500). Spanish credit has been much strengthened in the decade that has elapsed since what is called locally here the " disaster " of 1898.

The perpetual internal 4 per cent debt of Spain was quoted in January, 1899, at from 60 to 63 per cent. These bonds had risen in July, 1908, to between 83 and 84 per cent, and in the meantime have been quoted even higher. The bonds of the redeemable internal 5 per cent loan of 1900 and 1902 were issued at 88 to 90 per cent and are quoted to-day on exchange at 101.75 per cent.

In October, 1907, the outstanding debt of Spain amounted to 9,499,020,575 pesetas ($1,629,082,028), summarily described as follows:

Debt.	Pesetas.	Dollars.
External 4 per cent	1,026,859,700	176,106,438
Perpetual internal 4 per cent	6,516,315,844	1,117,548,167
Redeemable internal 5 per cent	1,654,690,000	283,779,335
Promissory notes:		
Ministry of colonies	300,000,000	51,450,000
To officials, no interest	1,155,031	198,088
Total	9,499,020,575	1,629,082,028

For the interest of the debt in 1907 the estimated amount required was 389,012,752 pesetas ($66,715,687) and for amortization 11,316,804 pesetas ($1,940,832). The interest charge per capita is about $4 and the national debt about $100 per capita.

Government revenues are derived from direct and indirect taxation, stamp duties, monopolies, including tobacco and matches, and income from Government property.

Direct taxes are levied on landed property, houses, live stock, commerce, industries, registrations, mortgages, titles of nobility, and the products of the mines. Imports from foreign countries, tolls, bridge and ferry dues, and articles of consumption pay indirect taxes.

BANK OF SPAIN.

BUSINESS TRANSACTED, PROFITS, ASSETS, AND LIABILITIES.

Consul-General Frank D. Hill, of Barcelona, furnishes the following information concerning the financial operations of the Bank of Spain:

The profits of the Bank of Spain for the first six months of 1908 amounted to 20,340,000 pesetas ($3,506,896), against a profit of $2,853,448 and $3,327,586 for the first six months of 1907 and 1906, respectively. A slight reduction in the dividend of 1908 was not, therefore, to be attributed to a falling off in business, it being due to the adoption of a policy of increasing and strengthening the bank's reserve, yet it caused a depreciation of 3 per cent in the value of its shares.

By law, the Bank of Spain can issue notes up to a limit of 2,000,000,000 pesetas ($343,000,000), of which 1,200,000,000 pesetas ($205,800,000) shall be protected by a coin reserve fund of one-third of that amount, half of which must be in gold coin or bullion. Forty per cent of the remaining issue up to 1,500,000,000 pesetas ($257,250,000) shall be guaranteed by a gold reserve and 60 per cent of the remainder by deposits in silver. Of issues above 1,500,000,000 pesetas ($257,250,000) 50 per cent have a gold guaranty and 70 per cent of the remainder a silver-deposit guaranty.

ASSETS AND LIABILITIES—GOLD AND SILVER COINAGE.

According to an official statement, the condition of the bank on July 24, 1908, was as follows:

Assets: Gold on hand, $75,357,732; silver on hand, $116,332,691; policies of credit accounts and policies of guarantee credit (available balances), $80,476,095; perpetual interior 4 per cent loan, $59,391,199; all other assets, $113,152,490; total assets, $444,710,207.

Liabilities: Bank notes in circulation, $270,363,936; current accounts, $78,993,951; all other liabilities, $75,305,404; total liabilities, $444,667,291.

During the last twenty years nearly equal amounts of gold and silver have been coined, the amount of gold coined being about 1,000,000,000 pesetas ($171,500,000).

Spain has the double standard by law, the ratio being 15½ to 1. Gold and silver coins are of the same fineness and weight as French coins of the same denominations, but owing to depreciation the Spanish peseta is quoted to-day (August 1) at 17.15 cents gold. Exchange, nevertheless, has been rising of late years and the tendency appears to be upward.

UNITED KINGDOM.

IRISH BANKS PAY USUAL DIVIDENDS.

Consul Alfred K. Moe, of Dublin, furnishes the following information concerning banks and banking conditions in Ireland:

The fluctuation in the rate of interest which occurred during the first six months of this year had a very considerable effect upon banking profits. The reports of both English and Irish banks show traces of this fact. Of the Irish banks that issue their reports at this period

there is in no case a diminution of the dividend reported; and this, though not the sole test of prosperity, is the one which shareholders are inclined to look at most keenly on this side of the Atlantic.

The figures of the Bank of Ireland are, perhaps, most noteworthy for the large expansion in resources received from the public and the still further strengthening of the already strong cash reserves. The national bank can also report an increase in deposits and current accounts of a substantial nature. The profits were somewhat less than last year, but the dividend was maintained at its former figure, and the recovery in the market for gilt-edged securities rendered it unnecessary to add to the reserve fund.

The Provincial Bank had a report which was favorable in all respects save one—the net profits, which showed a considerable falling off when compared with what they were twelve months ago. This institution is largely interested in the linen trade, and it is probable that the diminished profit is partially due to the unsatisfactory conditions prevailing in that trade. In spite of the lesser returns, the directors were able to pay their usual 12 per cent, to add nearly $25,000 to the reserve, and to write a similar sum off the premises account. The Munster and Leinster Bank continued its prosperous career, and had no difficulty in returning 13 per cent to the shareholders.

AGRICULTURAL COOPERATIVE CREDIT ASSOCIATIONS.

While the field of banking in this country, as far as it can be cultivated by the joint-stock banks, appears to be fully occupied, there is another direction in which there is room for the development of credit institutions—i. e., cooperative credit associations in connection with agriculture. Germany leads the way in this sphere of enterprise, and while the institutions progressed but very slowly when first started in that country, they now fill a most important position in the economic conditions of German agriculture. They were started in Ireland about fourteen years ago. The root idea was the formation of small local associations, the members of which would be liable for the funds intrusted to them, and would lend them out, as required, in small sums, for productive purposes only. They are meant to deal with a class of business which the joint-stock banks would be disinclined to handle, for they would neither have the local knowledge nor the interest to do so.

In connection herewith, a leading local newspaper says:

> These credit associations, now gradually increasing in number, tend to strengthen the morale and the industrial spirit of those who deal with them. In their working they show by practical illustration the supreme value of character and honesty, even in the small branches of the business of life. They have already given many a poor man the first start in the battle of life, which makes ultimate victory a possible thing, and are deserving the practical support of all those who aim at making Ireland prosperous.

BRITISH SAVINGS BANK DEPOSITS.

Consul-General Robert J. Wynne, of London, reports that the returns for the British post-office savings bank for 1907 show that the amount deposited during the year was $215,183,427, which, with interest and the amount brought forward from last year, made a total of $992,443,395. Repayments during the year amounted to $225,969,270, leaving a balance due to depositors of $766,474,120.

RUSSIA.

GOVERNMENT FISCAL BUDGET—NEW LOAN—MUNICIPAL PAWNSHOP.

Consul James W. Ragsdale sends from St. Petersburg the following information of fiscal affairs in Russia:

On July 19 the Emperor ratified the estimate of the budget for 1908, drawn up according to resolutions taken by the State Council and State Duma. The estimate balances the revenues and expenses for 1908 as follows (ruble = 51.5 cents):

Revenues.	Rubles.	Expenses.	Rubles.
Ordinary	2,386,945,498	Ordinary	2,312,251,090
Extraordinary	194,457,670	Extraordinary	269,152,078
Total	2,581,403,168	Total	2,581,403,168

The excess of ordinary revenues over ordinary expenses is calculated at 74,694,408 rubles.

The minister of finance, addressing the Duma, mentions a surplus of 74,000,000 rubles ($37,000,000) of ordinary revenue over ordinary expenditures. He describes this as a highly satisfactory proof that the ordinary needs of the country are more than sufficiently covered by the yield of ordinary taxation.

According to preliminary calculations of the bank syndicate the recent loan has been covered with a considerable surplus. The distribution will probably be made on a basis of 80 per cent of the amount subscribed. The amount of 135,000,000 rubles received by the syndicate out of the total of 200,000,000 is covered one and one-fourth times with about 170,000,000 rubles. The chief subscribers were tradespeople; larger trade and industrial concerns were rather abstaining.

A report is published covering the statistics of the municipal pawnshop of St. Petersburg for 1907; 490,910 loans have been made for 3,681,621 rubles; 453,794 objects pawned have been redeemed for 3,589,071 rubles; 17,834 objects, valued at 117,913 rubles, have been sold at public auction, and 10,306 objects, valued at 136,619 rubles, remained unredeemed and were turned over to the pawnshop; 468 pledges, worth 6,974 rubles, were confiscated by court decree. The revenues of the pawnshop in 1907 amounted to 42,423 rubles, which were expended to cover two loans of 2,000,000 rubles and payment of interest. In total the pawnshop sustained a loss of 47,568 rubles.

INDUSTRIAL BANK.

FINANCIAL PROPOSITION TO AID THE EMPIRE'S BUSINESS PROSPERITY.

According to Consul-General Hunter Sharp, of Moscow, it is reported that the Council of the United Representatives of Trade and Industry have brought forward a suggestion that, with the participation of large Russian industrial undertakings and banks and under the management of the Ministry of Finance, a commission should be appointed to carry into effect a scheme for the establishment of an industrial bank for granting adequate credits. Mr. Sharp continues:

It is mentioned that the object aimed at is the resuscitation of the previous favorable period of prosperity, which was only to be attributed to the influx of foreign capital into the country.

It is considered that the economic situation of the country can only be again improved when success attends the bringing into existence of an industrial bank whose granting of credit would give the guaranty that Russian industrial undertakings do not lack native monetary assistance.

CUBA.

EXPENDITURES AND ESTIMATED REVENUE FOR THE PRESENT YEAR.

Minister Edwin V. Morgan, of Habana, furnishes the following statistics covering the Cuban budget for the fiscal year 1908–9, as compared with that of 1907–8:

The budget of the Cuban Government for the fiscal year 1908–9, including both appropriations for expenses and estimates of revenue, was authorized by the provisional governor in a decree issued on July 31.

It will be observed, by the statements herewith given, that the appropriations for the current year exceed those for the preceding year by $975,762, and that all departments, save the treasury and public works, receive additional allotments. For the present year it is apparent that the government income is expected to yield $3,948,838 more than in 1907–8, and that the income from internal revenue is the only source expected to yield less revenue than in that year.

A new source of revenue appears for the present year, under the head of "Surplus collections," etc.

The following statement shows the receipts and expenditures for the fiscal years 1907–8 and 1908–9:

Description.	1908–9.	1907–8.
ESTIMATED REVENUE.		
Customs, less amount for covering the expense of the legislative power in the fixed budget	$24,245,705	$23,046,000
Consular revenues	381,186	350,000
Communications	860,873	743,000
Internal revenue	778,800	831,000
State properties and rights	309,000	234,000
Miscellaneous revenues	958,415	262,325
Surplus of collections from internal revenue after payment interest on $35,000,000 loan and expenses of collection	1,881,184	.....
Total	29,415,163	25,466,325
EXPENDITURES.		
Provisional Government	131,610	105,980
Department of State and Justice	730,180	680,266
Department of Government	10,877,706	8,973,003
Department of the Treasury	3,431,900	3,440,955
Department of Public Instruction	4,275,794	4,195,868
Department of Public Works	3,257,878	4,445,226
Department of Agriculture, Industry, and Commerce	291,140	274,988
Judiciary	1,289,095	1,193,255
Total	24,285,303	23,309,541

CHILE.

EXTENT OF INTERNAL OBLIGATIONS AND REDEMPTION FUND.

Consul Alfred A. Winslow, of Valparaiso, reports that according to a late statement made on the floor of the House of Deputies at Santiago the public debt of Chile on December 31, 1907, was as follows:

The amount was $132,316,473 United States gold, of which $24,038,654 covered the internal debt at the present rate of exchange.

To this may be added $116,879,387 authorized by Congress for public improvements, which must be met within the next five years. This internal debt covers the paper currency issued by the Chilean Government, which if redeemed at its face value would mean $48,077,308 United States gold in excess of the value of the redemption bonds held to cover a portion of the currency, and would increase the public debt by $24,038,654. To redeem the paper currency of Chile there is now on deposit in European and American banks about $25,000,000 United States gold. These deposits are drawing interest and will be available for the purpose specified on and after January 1, 1910.

HAITI.

NEW ISSUES OF PAPER AND NICKEL INCREASE GOLD EXCHANGE RATE.

Minister H. W. Furniss, of Port au Prince, forwards the following report relating to new issues of Haitian currency and its effect on the commerce of the country:

The Haitian Government has received 750,000 gourdes of the 5-gourde bills ordered in New York. Though these bills had to be signed by three different persons, a large number of them were in circulation in less than two days after their arrival, and all of them are now in circulation. The other 750,000 gourdes are anxiously awaited. The 500,000 gourdes in nickel commenced to arrive shortly after their coinage was authorized in May, and all of them were in circulation sometime before the receipt of the paper money which was authorized at the same time.

Since the 5-gourde notes have been in circulation a peculiar condition has arisen. The market people and small shops refuse to take them on the ground that they have not enough change to give in return, and the bankers refuse to accept them except at 4 to 10 per cent discount. In other words they are accepted by the bankers at from 4 to 10 per cent discount, as compared with the 1 and 2 gourde bills, while nickel money is accepted at 3 to 4 per cent discount as compared with the 1 and 2 gourde bills.

The reason given by the market people and the small shopkeepers, that they have not enough change to accept them, if true, indicates that there are few purchases which approach 5 gourdes in value, the equivalent of less than 50 cents gold.

It would seem that the bankers would accept them, as it obviates less counting of money in their transactions, but I have been told by several of the bankers that they are not accepted because of difficulty encountered in getting rid of them, as only money of small denomination is desired. Because of the great fluctuations in the value of the paper currency the bankers will take only such fluctuating funds as can be disposed of readily.

ADDITIONAL NICKEL ISSUE AUTHORIZED.

Congress has sanctioned the coinage of an additional 2,000,000 gourdes in nickel coin. Such coin has no guarantee other than the Government's credit. This form of money has been chosen instead of paper currency as it can be rapidly delivered, while paper money will take at least two months for printing, seasoning, etc. The nickel money costs considerably more in proportion to value than the paper money, but the desire of the Government to put the money rapidly in

circulation is so great that this difference in cost is not taken into consideration. The nickel is to be coined in the United States and is to make up the deficiencies in the revenues.

As the result of the rumor of an additional issue of money the gold premium went up more than 50 points on August 21, and to 895 with further upward tendencies. This reduces the 1 and 2 gourde paper bills to 10 cents American gold per gourde, with a 3 to 4 per cent discount on this amount for nickel and 4 to 10 per cent discount for the 5-gourde bill. When the nickel coin which has just been authorized commences to arrive the gold premium will surely go up.

PUBLIC WORKS ABROAD.

CANADA.

GOVERNMENT DESIRES BIDS FOR NAVIGATION IMPROVEMENTS.

In reporting that the Canadian department of public works at Ottawa is calling for tenders in connection with improvements which the Dominion government has undertaken in order to facilitate navigation between Lake Champlain and the St. Lawrence River, Consul Frederick M. Ryder, of Rimouski, writes:

The initiatory work will be on the Richelieu River, which is the outlet of the lake, emptying into the St. Lawrence at Sorel. At St. Johns all shipping enters the Chambly Canal (which is about 12 miles in length) in order to avoid the rapids. The project includes considerable dredging and the erection of a dam 6,350 feet long, the estimated cost of the latter being $110,000. The natural result will be to lower the crest of the rapids at St. Johns about 5 feet and raise the water level in the canal. Incidentally this will also prevent the recurrence of floods, which have caused much damage to the farms located along the banks of the river.

CHILE.

CONTRACTS FOR CONSTRUCTION OF BRIDGES.

Consul Alfred A. Winslow, of Valparaiso, reports that the Director General de Obras Publicas has just made public the statement that the Chilean Government has 28 bridges of different classes under construction at a total cost of $1,017,510 United States gold, with 31 more under consideration at a total cost of $1,390,103 United States gold. The consul continues:

Plans and specifications are now in course of preparation for many of these bridges. Many of them are to be of steel construction. In Chile it is the general government that builds all bridges of importance, so all communications relative to these matters should be addressed to the Director General de Obras Publicas, Santiago, Chile.

The time given in the legal notice for filing bids is by far too short for American interests to prepare and submit bids from the home offices, since it scarcely ever exceeds ninety days. About the only way to reach this profitable and increasing business is to establish an agent in Chile to look after it. European exporters have an advantage of from fifteen to twenty days each way over the American house, which means much in all similar undertakings.

AUSTRIA-HUNGARY.

LARGE EXPENDITURES TO BE MADE BY GOVERNMENT RAILWAYS.

Consul Albert Halstead, of Birmingham, reports that the London correspondence of the Birmingham Post contains the following:

Writing from Vienna, a well-placed correspondent states that it is estimated that something like £3,000,000 sterling (£ = $4.86) will have to be expended during next year on the renewal of rolling stock for the railways which have just been acquired by the State. There are now only about 2,000 miles of line privately owned in Austria-Hungary, and these, it is believed, will be acquired early in 1909, payment being made, as in the former purchases, by the issue of government bonds. The state department proposes to make many improvements in the running of the railways and will introduce a number of American and British locomotives.

GLASGOW'S CLEANSING DEPARTMENT.

EXPENSES AND RECEIPTS IN HANDLING THE CITY'S REFUSE.

Consul J. N. McCunn furnishes the following statistics covering the handling of the refuse in Glasgow as of possible interest to officials in American cities:

During the year ended May 31, 1908, refuse of all kinds dealt with by the Glasgow Cleansing Department amounted to 353,176 tons of 2,240 pounds to the ton, an average of nearly 1,129 tons per working day. Of this, 94,157 tons were sold to farmers as city manure and 22,259 tons as stable manure. The year's expenditure was $696,677 and the revenue amounted to $181,657, derived as follows: Manure, $158,296; tins, light iron, and galvanized iron, $9,636; clinker, $8,320; waste paper, $3,007; heavy scrap iron, collected from workshops, $2,112; sundries, $286.

The special service for the collection of waste paper is a marked success, in view of the fact that it has to cope with private enterprise. Food unfit for consumption, comprising fruit, vegetables, beef, tinned meats, fish, and eggs, were destroyed to the amount of over 83 tons. The eggs alone were over 30 tons and numbered fully half a million. The system of utilizing waste materials saved from the refuse, inaugurated about thirteen years ago, has proved a great success. The revenue from this source has increased from $1,000 in 1895 to $23,119 in 1908.

CANADIAN BOUNTY PAYMENTS.

AMOUNTS RECEIVED BY METAL, OIL, AND TWINE PRODUCERS.

Consul James M. Shepard forwards from Hamilton the following Canadian newspaper statement in regard to certain bounties given by the Dominion government for the past fiscal year:

A return prepared for presentation to Parliament last session, but completed too late for the purpose, shows the amount of money paid in bounties to the iron, steel, petroleum, and binder-twine industries during the fiscal year 1908.

On steel manufactured in Canada, during the year ended March 31 last, bounty was paid on 661,940 tons, at $1.65 a ton, or a total of $1,092,200. The Canadian pig iron used in the production of this quantity was 539,102 tons; foreign, 24,298 tons. The aggregate of bounties paid was: On pig iron, $863,816; on steel, $1,092,200; on iron rods, $347,134; or a total on iron

products of $2,303,140. Then there were paid in bounties on lead, $51,001; on manila fiber entering into the manufacture of binder twine, $42,000; on Canadian crude petroleum, at 2½ cents per gallon, $391,217; a total in bounties of $2,787,358.

That the bounty payments for the present year will exceed the foregoing figures is evident from the fact that the allowance on manila fiber has been extended to cover manila used in the production of cordage generally, instead of being confined, as heretofore, to material, and solely in the making of binder twine. Another element of enlargement is the enhanced bounty on lead from ores mined in Canada

On January 1 next the bounty will be reduced to $1.70 per ton on iron from Canadian ores, and 70 cents on pig iron from foreign ores. In this respect it is pointed out that the product of smelting from the electric process enjoys a distinct advantage, in that while pig iron electrically smelted will be entitled for the year 1909 and 1910 to a bounty of $2.10 per ton, pig iron produced by the ordinary process will earn only $1.70 per ton, and the electric product will only reach the minimum of 90 cents per ton in the year 1912.

The bounties paid to producers of Canadian petroleum, at the rate of 1½ cents per gallon, amount to $391,217 upon 26,081,302 gallons in 1907-8, or for the four years in which the bounty has been in effect to a total of $1,292,974 upon a production of 86,598,302 gallons, equal to 2,474,237 barrels of 35 gallons per barrel.

SWISS LIQUOR TRAFFIC.

MANUFACTURE AND SALE CONTROLLED BY THE GOVERNMENT.

In transmitting the following report Vice-Consul Eugene Nabel, of St. Gall, says that the Swiss Government exercises control and a virtual monopoly over the manufacture and sale of spirituous liquors in the Republic.

According to an official report just published, the profit for 1907 shows a surplus of $1,286,676, compared with a profit of $57,900 for the preceding year. This surplus is due partly to higher prices obtained from the sale of denatured alcohol and also to larger receipts from monopoly taxes on licensed private production.

In 1907 the consumption of alcoholic liquors and denatured alcohol in Switzerland amounted to 4,224,428 gallons, viz: For drinking purposes, 1,735,081 gallons, at an average price of $1.08 per gallon; for technical and household purposes, 2,489,347 gallons, at an average price of 26 cents per gallon. Of the liquors consumed in 1907, only 956,458 gallons were of home production, of which 90 per cent was derived from potatoes, corn, beets, etc., and 10 per cent from brewery waste and molasses.

The imports of alcoholic liquors and denatured alcohol in 1907 amounted to 2,457,316 gallons, being 1,152,615 gallons less than the imports in 1906, of which 646,071 gallons came from Germany, against 860,428 gallons in 1906, and 1,786.544 gallons from Austria-Hungary, against 2,658,720 gallons in 1906.

The balance sheet of the department gives the receipts at $2,702,000 and the expenditures at $1,389,600. Drinkable spirits alone yielded $1,737,000, commercial spirits but $623,390, demonstrating that a gallon for drinking purposes yields about four times as much profit as a gallon of commercial spirit. An item of $139,732 also appears, being taxes collected from licensed manufacturers.

The revenue from the Swiss alcohol monopoly since 1877, the date of its establishment, has been $24,059,187.

NORWEGIAN ENTERPRISE.

HYDRAULIC POWER CONCESSION TO BE GIVEN A GERMAN FIRM.

Consul Felix S. S. Johnson, of Bergen, makes the report that two Government bills were laid before the Norwegian Storthing, having the following object:

It is provided that the German company, Badische Anilin und Sodafabrik, shall be granted permission to acquire the Tyin and Matre water courses in Bergen Stift, West Norway, with the intention of regulating the said water courses for a delivery of 60,000 to 70,000 horsepower.

Among the conditions may be mentioned that the company is to pay yearly to the State 1 crown (26.8 cents) per horsepower beyond the 10,000 horsepower which the water course is supposed to supply when unregulated. The company is not allowed to raise the price of electric energy within the Kingdom of Norway, and is bound to supply 500 horsepower for public use at a yearly price of 30 crowns ($8.04).

The construction shall be commenced within five years and completed within twelve years, during which period the company is permitted to employ foreign engineers and workers to the extent they deem necessary, though the ordinary conditions as to Norwegian employees and Norwegian material are laid down as the essential rule. After the expiration of seventy-five years the whole concession shall revert to the State.

MEDICAL TOPICS.

PROPRIETARY REMEDIES.

SPAIN.

CONDITIONS WHICH MUST BE OBSERVED IN ENTERING GOODS.

Consul-General Frank D. Hill, of Barcelona, writes that proprietary medicines are permitted entry into Spain, provided their formulæ be published and a copy deposited at the custom-house for the information and guidance of the inspector of pharmaceutical products. Mr. Hill supplies other facts of this trade:

Where entry is made at different ports the formulæ must be deposited at each custom-house. There are no Government laws that regulate the sale of proprietary medicines, but there are customs regulations governing their entry. These are as follows:

The products or substances mentioned in paragraphs 237 to 241 of the tariff must be examined by the pharmaceutical inspector, who must sign the clearance certificate, together with the custom-house officers, and make the following indorsement: "The products examined are those indicated in the clearance certificate, and may be (or may not be) permitted entry as their formulæ has been duly published (state where), or their composition has been duly ascertained by means of an analysis made by (name of analyst.)"

There are no police laws relating to the sale of proprietary medicines. There are, however, board-of-health laws regulating their sale, in substance as follows:

Certain administrative bodies, the Royal Academy of Medicine and the Royal Sanitary Council, are required to prescribe regulations limiting, restricting, and absolutely prohibiting outside pharmacies the sale of certain remedies. Pharmacies are also prohibited from selling proprietary medicines, the formulæ and quantities of the principal ingredients of which are not stated on the label of the package.

The law thus requires the formula to be indicated on the label in both quantities and component parts, though I am informed this is not usually done in practice. The services of a local representative are useful in meeting the requirements of the custom-house regulations and sanitary laws. If a proprietary medicine is distinguished by a trade-mark, this should be registered at the patent office at Madrid, but it is not necessary to register the formula.

The customs duties on pharmaceutical preparations coming from the United States into Spain per kilo (2.2 pounds) are in detail as follows: Pills, capsules, medicinal sugar plums, etc., $0.58; medicinal wines, $0.48; medicines containing sugar, glucose, saccharine, and similar substances, without alcohol, $0.77; same, containing alcohol, not otherwise classified, $0.58; all other pharmaceutical products, $0.38.

Samples of proprietary medicines are not conceded free entry into Spain; they must pay the same rates of duty as the foregoing.

Advertising matter is allowed to enter, but not free of duty. The duties on printed matter entering Spain, per 100 kilos (220.46

pounds), are as follows: Books and other printed matter in the Spanish language, bound or unbound, $9.65; printed in a foreign language, $1.93.

ADVERTISING METHODS—TRADE LIMITATIONS.

There are no Government, police, or board of health laws regulating or restricting the distribution of free samples or of advertising matter.

Retail druggists, as a general rule, are not adverse to distributing advertising matter, but naturally there are a few exceptions. They do not expect a bonus for doing so; but in some cases a bonus is allowed for exhibition of show cases or for feature advertising. Advertisements in the press of proprietary medicines are extensive. The forceful kind of advertising appeals best to the public, and is the most successful. The daily papers are read by all classes. Merchants advertise in the press to reach the middle class. There are no restrictions placed on proprietary medicine advertisements, except that the text of the advertisement must not be worded in such a manner as to disparage the medical profession, nor contain wording offensive to morals.

With regard to legislation unfavorable to the proprietary medicine business, at present there is quite an agitation among retail druggists for legislation to govern the sale of proprietary medicines, and it is not improbable that they will eventually gain their end, though this is not expected to occur for some time. The reason for this agitation on the part of druggists is that they desire to deal in prescriptions in preference to selling patent medicines, as their profit is larger on the former. However, the interests of dealers in proprietary medicines are great, as proprietary medicines are at present sold extensively in Spain.

No special permit is required in order to engage in the proprietary medicine business, but a branch house or representative is subject to the payment of an industrial tax, amounting to 2,400 pesetas ($415) per annum. Foreign companies need not be registered in order to do business, nor are they required to have a local representative, although, in the interests of a business, a good agent is essential.

There is no stamp tax in connection with proprietary medicines.

CHINA.

TRAVELING SALESMEN AND SHREWD ADVERTISING BRING TRADE.

Vice-Consul Ernest Vollmer, of Tsingtau, calls attention to the vast field in China for the sale of patent medicines. He says:

With the general depression of trade throughout China the number of traveling salesmen is gradually decreasing. Thus American exporters of some lines of goods who covered this territory regularly a year ago now have no men in the field at all. One of the marked exceptions, however, is the medicine business, which indicates that foreign drugs have become popular, and that sales will continue, despite hard times. Coming more and more into contact with the foreigners, as the white population of China becomes larger, the native has gradually learned that the medicines of the European are effica-

cious. The common method of relieving one pain by another, formerly practiced by all natives, now seems to be confined more or less to the poorer class in the treaty ports.

In recent years many American and other foreign firms have extensively advertised their patent medicines throughout the Empire with display posters. The paper is in gaudy colors, gives a picture of the medicine as placed on the market, and furthermore has Chinese reading matter. With a systematic way of bringing their wares to the attention of the natives, large sales have resulted, one firm selling some 5,000 dozen bottles of its preparation annually in Shanghai alone. This firm finds that it pays them to keep a salesman in China selling one medicine only. The native cares little what the medicine contains if it allays his pain. Any sedative will be judged merely by what it appears to do in the shortest possible time.

An American firm of manufacturing chemists established in China covers the entire Empire as far as it can be conveniently reached, and does a satisfactory business. Aside from chemicals and drugs, the house handles all sorts of "ready-made" medicines, and is continually increasing its sales. The statement is made that large orders are being received from the Yangtze region, owing to a prevalent cholera scare. The Chinese use the medicine as a preventive. With energetic work there is an unlimited field for export of this class of articles.

BRITISH INDIA QUININE.

THE GOVERNMENT SEEKING TO POPULARIZE THE USE OF QUININE.

The following information concerning the efforts of the government to popularize the use of quinine as a febrifuge and the production and consumption thereof in British India is furnished by Consul-General William H. Michael, of Calcutta:

The government of Bengal has under consideration proposals for popularizing the use of quinine as a febrifuge in malaria-stricken districts. It is believed that if the efficacy of quinine can be demonstrated to the masses, the use of the drug extended and popularized, and in this way some appreciable relief be given to the people who suffer so severely from the ravages of malaria, the government will be justified in incurring considerable expenditure. At present packets of quinine, each containing 7 grains, can be purchased for 1 pice (one-half cent) each, at post-offices and from retail vendors in different parts of the province, but the sale of these packets is still comparatively small, considering the enormous number of persons who die from fever every year. During 1907 some 22,500 parcels, each containing 102 pice (one-half cent) packets, were issued in this province, which is considerably less than in 1906. It has been suggested that the present powdered form in which the drug is sold detracts from its popularity; that the quinine should be made up into small round tablets that can be easily swallowed with a draught of water, and that each packet should contain 10 grains instead of 7 as at present. It is recognized, however, that the price of packets should not be raised above 1 pice (one-half cent), and to sell a 10-grain

packet for 1 pice will mean a considerable loss to the government; but this is a loss which will not be considered if the scheme reduces the heavy mortality from fever.

PRODUCTION AND CONSUMPTION.

The production and output of the government plantation and factory in Bengal for the year ended March 31, 1908, were as follows:

The (dry) bark harvest for the year, from all divisions, amounted to 445,638 pounds, an increase of 16,081 pounds over the receipts of 1907. The total quantity of bark worked up was 945,900 pounds, and the output of quinine sulphate amounted to 27,564 pounds, an increase of nearly 72 per cent on the output of 1907. This was the largest quantity ever turned out by the factory in a single year and was partly due to new machinery, but principally to the method of working, by which each vat produced very much more than formerly.

The yield during the year was only 2.90 per cent, but all the old bark being now worked up and only that from selected trees being henceforth available, it is expected that in a few years the yield will rise to 6 or 7 per cent.

The amount of sulphate of quinine sold during the year was 16,957 pounds, 1,176 pounds in excess of 1907. This was sold to medical depots, inspectors of prisons and jails, dispensaries, hospitals, etc. Of cinchona febrifuge 3,340 pounds were sold during the year to the same institutions to which the sulphate was sold, the general public taking 726 pounds less than in 1907.

NEW GERMICIDE.

IMPORTANT GERMAN PREPARATION FOR FIGHTING DISEASE.

Consul Thomas H. Norton states in a report from Chemnitz that an important step forward in the prevention of bacterial diseases is due to the recent studies of Professor Uhlenhut and Doctor Xylander, as just recorded in the "Klinische Wochenschrift," and which he reviews:

These investigators find that remarkably successful results in the field in question are obtained by the use of antiformin. This is a trade name given to the alkaline liquid prepared by the addition of caustic soda to the familiar solution of sodium hypochlorite, known as Eau de Javelle, and used for years as a bleaching agent, for the removal of ink and fruit stains, and for moistening surgical bandages.

Antiformin is encountered in commerce as a clear, yellow liquid, with a strong but not repulsive odor, suggestive of both chlorin and caustic alkali. On account of the impossibility of isolating alkaline hypochlorites, solutions only can be prepared and used. For some time past antiformin has been used as a disinfectant, and especially in breweries for the purpose of cleansing rapidly and thoroughly vats and pipes.

The experiments of the two professors establish the fact that this compound destroys most effectively and rapidly the bacteria of dysentery, cholera, typhoid fever, diphtheria, and the bubonic plague. These germs are killed, when brought in contact for a few minutes with 5 per cent and even weaker solutions of antiformin. When a comparatively small amount of the powerful reagent is added to

water containing the germs in question they gradually disappear, enter in fact into solution, very much as a lump of sugar would under similar conditions.

FURTHER ADAPTATIONS.

This property of antiformin renders it admirably adapted for the purification from bacteria of potable water, and for the complete disinfection of sewage and excrementitious matter. Experiments with the latter show that not only are all pathological germs present completely destroyed, but that also every trace of odor is removed.

Strange to say, the bacteria of tuberculosis show a remarkable power of resistance against the action of antiformin, so much so that it evidently will be of little aid in connection with the world-wide crusade now being waged against that disease. There are, however, many indications that antiformin will be of pronounced value in connection with the developments in the rapidly widening field of serum-therapy.

Primary solutions of sodium hypochlorite have ordinarily been prepared by triturating bleaching powder (calcium hypochlorite and calcium chlorid) with water and adding a solution of sodium carbonate, by passing a current of chlorin gas into a solution of the latter salt, or—most economically—by passing chlorin into a mixture of caustic lime and sodium sulphate.

Solutions of sodium hypochlorite are now prepared in Germany by the electrolytic decomposition of 5 per cent salt solutions in platinum troughs. A current of 110 volts and 100 amperes furnishes in such an apparatus nearly 6,000 liters daily of a bleaching solution containing 1 per cent of available chlorin.

AFRICAN PALM OIL.

AN INDUSTRY OF GREAT PROMISE, ALREADY VERY PRODUCTIVE.

Consul W. J. Yerby, of Sierra Leone, gives an account of the nut palm industry of West Africa, describing some of the primitive features of the industry and inviting inventors to contrive a machine to do the work now done laboriously by hand. He says:

The chief products of the western coast of Africa are the palm nut and oil, obtained from the nut palm, one of a thousand varieties of the palm plant growing in the tropical or semitropical regions. The nut palm is a perennial woody plant, often growing to the height of thirty or forty feet. The nuts, from 6 to 8 bunches to the tree, have an outer fibrous coat very much like the outer hull of the cocoanut. From this outer coat is made a crude oil which is used by the natives in the preparation of their "plava sauce" for their rice chop. Under this fibrous covering is another inner and brittle shell, also resembling the shell of the cocoanut. Within this shell is the kernel or fleshy part of the nut, which is hard, white, and of a light butternut appearance, very rich in the oil for which it is so famous.

There is little cultivation of the trees beyond allowing them to grow and removing the nuts that others may take their place. All of the work connected with hulling the nuts is crudely done, the natives sitting on the ground with a stone between their legs breaking away the outer shell with another stone or iron hammer, 200 natives doing the work that one machine might do. It would seem

that some American of inventive mind might contrive a machine to hull these nuts. The palm oil and nut industry of West Africa bids fair to rival the cotton-seed industry of America. It is only waiting for improved methods in its cultivation and preparation for the market. There were exported from Sierra Leone alone, during the year 1907, 34,947 tons of nuts and 615,997 gallons of the oil, valued at $2,500,000. The greater part of the oil is shipped to England and Germany to be used in the manufacture of soap, candles, and lubricating oils.

RADIUM TREATMENT.

PRACTICAL HEALING OF DISEASES THROUGH "CHARGED" WATERS.

Consul Frank S. Hannah, of Magdeburg, furnishes the following information concerning a new German treatment of diseases through distilled waters charged with radium gas:

Recent experiments by medical men of reputation are stated to have established the fact that the gas emitted from radium possesses the same qualities as the radium itself and is the principal healing factor in the various mineral waters used in the healing of diseases. This applies especially to skin diseases and rheumatism. It has been found that the various mineral waters lose the radium gas in transportation, and after long experiments a means has been devised for charging distilled water with radium gas through a comparatively inexpensive apparatus placed in drug stores, hospitals, etc. This enables patients to secure this healing water for drinking or bathing at their homes without the necessity of visiting the expensive baths. A small piece of radium is placed in this ingenious device and the rays permeate distilled water for a short space of time, when the water is drawn off and used for drinking or bathing as prescribed by the physician. Such an apparatus has been installed in a local drug store and two local physicians have prescribed the same with beneficial results in the treatment of rheumatism and gout.

[Printed pamphlets relative to this subject are on file in the Bureau of Manufactures.]

SUGAR AS A DISINFECTANT.

ITS USE MAY BE BENEFICIAL.

Consul-General Richard Guenther writes from Frankfort that in many parts of Europe it is customary among the people to burn sugar in sick rooms, a practice which is considered by physicians as an innocent superstition, neither beneficial nor harmful. He adds:

Professor Trilbert, of the Pasteur Institute at Paris, has, however, demonstrated recently that burning sugar develops formic acetylene-hydrogen, one of the most powerful antiseptic gases known. Five grams of sugar (77.16 grains) were burned under a glass bell holding 10 quarts. After the vapor had cooled bacilli of typhus, tuberculosis, cholera, smallpox, etc., were placed in the bell in open glass tubes and within half an hour all the microbes were dead.

If sugar is burnt in a closed vessel containing putrified meat or the contents of rotten eggs, the offensive odor disappears at once. The popular faith in the disinfecting qualities of burnt sugar appears, therefore, as well founded.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

BARBADOS.

PREFERENTIAL DUTIES ON CANADIAN PRODUCTS.

Consul Chester W. Martin, writing under date of August 29, transmits a copy of the preferential tariff adopted by the Legislative Council of the Island of Barbados on June 23, 1908, providing for reduced rates on certain Canadian products on the condition that Canada reduce her duties on sugar below her present preferential rates. The consul says:

The articles produced in the United States affected are principally bacons and hams, beans and peas, bran, boots and shoes, cordage, fish, flour, hay, lumber, other than pitch pine, slats, shingles, soap, sulphate of ammonia, and mixed manure.

This act can not become operative until it has been approved by the British Home and Canadian Governments, and receives the assent of the governor of Barbados.

It is extremely doubtful whether a satisfactory arrangement can be agreed upon between the two countries.

CANADA.

FREE ADMISSION OF ANIMALS FOR IMPROVEMENT OF STOCK.

Consul F. M. Ryder, of Rimouski, Quebec, writing under date of August 18, calls attention to the new customs regulations with reference to the free admission of animals into Canada, for improvement of stock, which became effective July 1, 1908. The consul says:

Heretofore apparently genuine certificates of registration were accepted by customs officials for the purpose of free entry, but under the new regulations there must be presented either a Canadian certificate of registration or an import certificate, as the case may be.

Canadian certificates of registration must be presented at the port of entry for the following classes and breeds:

Cattle.—Shorthorn, Ayrshire, Hereford, Galloway, Aberdeen-Angus, Red-polled, French Canadian, Jersey, Holstein, and Guernsey.

Horses.—Clydesdale, Hackney, Shire, Percheron, Thoroughbred Belgian, and French Canadian.

Ponies.—Shetland, Welsh, New Forest, Polo and Riding, Exmoor, Connemara, and Hackney.

Swine.—Yorkshire, Berkshire, Tamworth, Chester-white, Poland-China, Duroc-Jersey, Essex, and Victoria.

Sheep.—Shropshire, Lincoln, Oxford Down, Dorset, Southdown, Hampshire, and Leicester.

The Canadian records for all breeds mentioned (with the exception of Holstein cattle) are conducted under the Canadian national sys-

tem, in the office of the Canadian National Records, Ottawa. The Holstein record is at St. George, Ontario. In applying for registration of an imported animal, the foreign certificate of registration must accompany the application.

There are frequent importations of animals into Canada of breeds having no Canadian records, but which are entered in books of record in the following recognized foreign associations:

Horses.—Suffolk Horse Society, Great Britain; Cleveland Bay Horse Society, Great Britain and Ireland; Yorkshire Coach Horse Society of Great Britain and Ireland; American Morgan Register Association; American Saddle-Horse Breeders' Association; American Trotting-Horse Breeders' Association; Commission des Agriculteurs de France (French Draft); Commission de Stud Book des Chevaux de Demi-Sang (French Coach); Landwirthschaftliches Hauptverein für Ostfriesland (German Coach); Verband der Zuchter des Oldesburger eleganten Schweren Kutschpferdes (German Coach); Zuchtverband des Südlichen Zuchtgebietes (German Coach); Verband der Pferdezuchter in den Holsteinischen Marschen (Oldenburg).

Cattle.—Highland Cattle Society of Scotland; Kerry and Dexter Herd Book, Dublin; Sussex Herd Book Society, Great Britain; Polled Durham Breeders' Association, United States; National Polled Hereford Breeders' Association of the United States.

Swine.—Large Black Pig Society of Great Britain.

Sheep.—Suffolk Sheep Society, Great Britain; Kent Romney Marsh Sheep Breeders' Association, Great Britain; Cheviot Sheep Society, Great Britain; Wensleydale Longwool Sheep Breeders' Association, Great Britain; Blackface Sheep Breeders' Association, Great Britain.

Goats.—British Goat Society.

Asses.—Société Central d'Agriculture des Deux Sevres, France; Stud Books of Jacks and Jennets of Spain.

To secure free customs entry for animals so recorded it is necessary to forward to the Canadian National Records, Ottawa, the foreign certificate of registration; this will be returned to the importer, attached to an import certificate, which will authorize customs officers to admit the animal free of duty. A nominal fee will be collected for this service by the National Record.

REDUCTIONS OF DUTY BY ORDER IN COUNCIL.

Consul Paul Langof reports, under date of August 24, that the following changes have been recently made in the Canadian tariff:

The following articles are placed on the free list: Brass rods and bars more than 6 feet in length, brass in strips, plates, and sheets when unpolished, asphaltum oil when used for paving, felt, webbing, and hollow blocks for use in making artificial limbs, iron or steel rods of not less than five-sixteenths of an inch in diameter when used in the manufacture of chain.

The duty on tinsel thread or wire for the manufacture into cords and tassel, ribbons, or trimmings is reduced to 5 per cent preferential, 7½ per cent intermediate, and 10 per cent general. The duty on finished parts of iron or steel for the repair of portable engines or of traction engines for farm purposes is reduced to 15 per cent preferential, 17½ per cent intermediate, and 20 per cent general. The duty on flat steel, cold rolled, not above a half inch thick, when imported for manufacturing cups and cones for ball bearings, is reduced to free under preferential and 5 per cent under the intermediate and general tariffs.

COSTA RICA.

CLASSIFICATION OF MACHETES AND KNIVES.

By the Costa Rican decree of August 17, 1908, machetes and fine and hunting knives are to be dutiable at 0.81 colon per kilo (about 38 cents per 2.2 pounds).

CUBA.

CLASSIFICATION OF SUGAR BAGS FOR DUTY.

By decree No. 889, of September 9, the following clause is added to paragraph 127 of the existing customs tariff:

"A"—Bags for packing sugar made of cotton tissues plain and without figures or twilled, whatever may be the number of threads thereof and the weight per 100 square meters of the component tissue, it being necessary that such bags be marked with the name of the sugar mill for which they are intended and place where the same is located N. W. Kilo $0.09

NOTE.—The bags above referred to are hereby exempted from the surtax for making up and also from the surcharge provided for in decree No. 44 of February 1, 1904.

Imports from the United States, classed under paragraph 127, are entitled to a reduction of 30 per cent of the duty, and the rate of duty on sugar bags from the United States will therefore be 6.3 cents per kilo.

FRANCE.

LAW GOVERNING IMPORTATION OF PRUNES AND CANNED VEGETABLES.

Consul A. Gaulin, of Havre, calls the attention of American exporters to the law of July 11, 1906, which prohibits the importation of prunes and canned vegetables into France whenever the country of origin of these products is not plainly designated on their receptacles. The principal provision of the law is as follows:

The words indicating the country of origin shall be stamped either in relief or depressed in easily legible Roman letters at least 4 millimeters (0.16 inch) high in the center of the cover or bottom of the receptacle containing the merchandise, and with no intervening reading matter or imprint. The same words shall be inscribed with adhesive letters on the cases and packing material used to ship the goods.

It is not sufficient, therefore, says the consul, to merely attach to the packages or containers labels describing the merchandise and indicating its place of origin. It is essential that the words "États-Unis d'Amérique," in the case of American goods, be stamped as above stated.

Moreover, when labels are used, they should be free from any statement, design, or device which could in any manner be misleading as to the origin of the article contained therein. The names of French localities and French firms should be especially avoided.

It is to be hoped that American exporters will invariably comply with all the requirements of the law, both in the interest of American trade and in justice to the French importers, who are held responsible by the courts even when the shippers alone are at fault. A Havre merchant was recently sentenced to pay a heavy fine for having imported from the United States dried vegetables in containers which

were not marked in the prescribed manner. The fact that he had before shipment informed the exporters of the provisions of the law was held to be immaterial.

In view of this decision and of the severe penalties imposed it is unlikely that French merchants will hereafter feel disposed to transact any business in the products mentioned unless assurances are given that their instructions relative to customs regulations will in all cases be carried out to the letter.

GERMANY.

MISPRINTS IN THE CUSTOMS TARIFF.

The attention of all persons having copies of the German Customs Tariff published by the Bureau of Manufactures is called to the fact that through the accidental ommission by the printer of some footnote marks in the column containing the conventional tariff, certain conventional rates of duty in Tariff Nos. 23, 27, 45, 100, 103, 136, 205, 230, 296, 475, 518 and 538–542 erroneously appear to be applicable to goods coming from the United States. It is necessary therefore, in consulting the above tariff numbers, to refer to Tariff Series No. 5, containing the commercial agreement between the United States and Germany. Only the conventional rates given in the latter publication are applicable to imports from the United States, while in all other cases imports from the United States are subject to the general rates of duty.

Tariff Nos. 138 and 139, on page 27, should read as follows:

Tariff No.	Articles.	General rate of duty.	Conventional rate of duty.
138	White of egg, liquid, whether salted or treated with other preservatives or not	Free.	Free.
139	Honey, in hives, skeps, boxes, with live bees: When the weight of the hive, etc., including the contents, is—		
	Not more than 15 kilos	Free.	Free.
	More than 15 kilos	40.00	.....

Tare: Honey hives and honey skeps, with honey in the comb, 20.

NOTE.—Live bees with honey in hives, skeps, or boxes, if the weight of the hive, etc., including the contents, exceeds 15 kilos, may be admitted free of duty on proof that they have been sent abroad temporarily.

HAITI.

COMMERCIAL CONVENTION WITH GERMANY.

The commercial convention between Germany and Haiti, which was concluded at Port-au-Prince on July 29, 1908, and went into effect September 1, provides for the most-favored-nation treatment of the following Haitian products in Germany: Cabinet and dye woods, cacao, coffee, wax, and honey. The following German products imported into Haiti are to be entitled to a reduction of 25 per cent of the principal duty, as well as of the surtaxes and other imposts; Hosiery of all kinds, matches, iron and enameled ware, cement, cordage, porcelain ware, and twine. Beer is to be admitted at a reduction of two-thirds of the present duty.

TARIFF CONCESSIONS TO THE UNITED STATES.

By the law of August 19, 1908, the Government of Haiti has reduced the duty on cordage imported from the United States 25 per cent and on beer 66.67 per cent. The general rate on cordage,

including the various surtaxes, is 3.10 gourdes, or 77.5 cents in United States currency; the reduced duty on cordage imported from the United States will therefore be 58 cents per 110 pounds. The duty on beer is similarly reduced from about 40 cents per case of 12 bottles and about $2.50 per barrel to 15 and 90 cents, respectively, after allowing for wharfage and other special taxes. The above concessions form a part of the treaty concluded between Haiti and Germany.

PERSIA.

EXPORTATION OF LAMBSKINS PROHIBITED.

Interpreter John Tyler, in charge of the legation at Teheran, reports that a circular note has been received from the Persian ministry of foreign affairs, announcing that on account of the scarcity of mutton the slaughter of lambs and the exportation of lambskins was prohibited some time ago. Mr. Tyler adds:

As this order has, to some extent, been evaded and lambs killed, it has been decreed that from July 21, 1908, for two months only, all persons who had previously bought skins would be allowed to export them, by paying a tax of 3 krans (kran=7.2 cents) on each skin to the ministry of foreign affairs, and receiving therefrom a permit to transfer them across the frontier. Skins of lambs killed in the cities of Teheran and Koom, which are of an inferior quality, are to be taxed at 1½ krans. Should attempts be made to smuggle skins across the frontier, an additional 5 krans will be levied on each skin.

A note has also been received from the ministry of foreign affairs stating that a tax of one-half kran will be levied on each box of silkworm seed imported into Persia.

SERVIA.

TREATY WITH AUSTRIA-HUNGARY PUT INTO EFFECT.

The commercial treaty of March 14, 1908, concluded between Austria-Hungary and Servia, was provisionally put into effect on September 1. The rates of duty on a large number of articles have been reduced by Servia, these reductions being applicable also to imports from the United States under the most-favored-nation treaty between the United States and Servia. The articles of interest to American commerce on which reductions have been made are as follows: Flour; cotton-seed oil, pure and mixtures of cotton-seed oil with other fatty oils (from $19.33 to $4.83 per 100 kilos); leather boots, shoes, and gloves; manufactures of wood, furniture, paper, glassware; manufactures of iron, agricultural implements, safes, and electric motors and apparatus.

The reductions in the customs tariff of Austria-Hungary affect chiefly cereals, fruits, and live stock. These reductions apply also to imports from the United States. The full official text of the treaty is on file at the Bureau of Manufactures.

SIERRA LEONE.

INCREASE OF DUTY ON SPIRITS.

Consul W. J. Yerby reports from Sierra Leone, under date of August 21, that at a special meeting of the legislative council of

Sierra Leone, held on August 14, a bill was passed increasing the duty on spirits or strong waters of which the degree of strength can be ascertained by Tralle's hydrometer from 4 shillings (97 cents) to 5 shillings ($1.22) per imperial gallon, where the spirit is of 50 per cent strength or less by such hydrometer, and so in proportion for any greater strength of proof.

UNITED KINGDOM.

PROHIBITION AGAINST SUGAR IMPORTS REVOKED.

Consul-General Robert J. Wynne reports, under date of August 11, that the London Gazette publishes an order in council revoking, from September 1, 1908, the two orders in council, dated August 11, 1903, and March 27, 1905, by which the importation into the United Kingdom of sugar from Denmark, Russia, the Argentine Republic, and Spain was prohibited.

As a consequence of the issue of this order in council it will be possible, after September 1, to import sugar freely into the United Kingdom from any country.

[This order was issued as a result of the recent modification of the Brussels Sugar Convention, by which Great Britain was released from the obligation to enforce the penal provisions of Article IV of the convention.—B. of M.]

VENEZUELA.

REDUCTION OF DUTY ON WHEAT.

Consul James W. Johnson transmits from Puerto Cabello a copy of a Venezuelan decree dated August 1, by which wheat is placed in Class II of the tariff (with a duty of 1.93 cents per 2.2 pounds), with a surtax of 5 per cent. The consul adds:

Wheat, before the present decree, was assessed in the second class, but in addition to the war tax of 55 per cent, it paid a still further tax of 20 per cent; this latter tax of 20 per cent is by this decree reduced to 5 per cent.

MISCELLANEOUS.

EDUCATIONAL ADVANCEMENT.

BELGIUM.

A MOVEMENT FOR THE HIGHER SCIENTIFIC TRAINING OF DENTISTS.

The following report on the status of dentistry in Belgium, in connection with the annual meeting of the Internation Dental Federation in Brussels for the discussion of questions of interest to the profession, is supplied by Consul H. Abert Johnson, of Liege:

One of the leading topics to be brought up at the meeting is the problem of instruction in the dental profession. This question will prove of vital interest to Belgium, a country that, in spite of its rapid advances in modern progress, has neglected to provide anything like adequate scientific training for dental practitioners. No official institution offering instruction in this modern branch of medical science exists in Belgium.

In order to follow an advanced course in dentistry, it is indispensable for the Belgian student to have recourse, either directly or indirectly, to some foreign institution. All serious practitioners agree in the opinion that it is essential to inaugurate a system of instruction in dental science that will be in keeping with rapid advances in this science in the leading nations of the world. They also believe that it is absolutely necessary to give the maximum guaranty to their patients, and to achieve this result they are of the opinion that the best solution, if not the only possible one, is the creation of a special dental doctorate.

The dentist's art has for a long time been taken up by anyone that chooses to practice it, without any limits or restrictions, not having been given official recognition. At last, however, the question seems nearing a satisfactory solution, as Parliament has now under consideration a project regarding the governmental supervision of the liberal professions which embraces dentistry.

Desiring to welcome their colleagues in a manner worthy of the occasion, the federation has arranged an exposition, receptions, fêtes, excursions, and a banquet. The exposition will be held in the "Maison des Medecins," Brussels, and will be thoroughly representative of modern dental science.

CHINA.

ENCOURAGEMENT TO CHINESE STUDENTS IN THE UNITED STATES.

The Journal of the American Association of China publishes an article on Chinese students in the United States. It opens by quoting the Hon. Oscar S. Straus, Secretary of Commerce and Labor, on "The Spirit and Letter of Exclusion," as follows: "By making admission the rule, and exclusion the exception, we could easily pre-

serve the present policy in all its integrity, and even strengthen the real prohibitory features thereof, at the same time entirely removing a material cause of friction, dissatisfaction, and unnecessary humiliation to the people of a friendly nation." The Journal then gives the following information about the progress of matriculation of Chinese students in American colleges:

The leading universities in the United States have adopted a most generous policy, and are doing everything they can to encourage Chinese students to come to America. Harvard, Yale, Columbia, Cornell, and the University of California offer scholarships to those Chinese students who come well recommended, and all through the country there is an earnest desire on the part of presidents of colleges to throw open their doors to the Chinese.

Recently two subcommittees, one appointed by the American University Club of China and one by the American Association, have taken counsel together to effect, if possible, some such arrangements for the benefit of Chinese students wishing to study in the United States. Mr. Charles Denby, consul-general at Shanghai, has taken great interest in the matter. The important work to be done is two-fold. In the first place means must be devised to inform intending students that America is glad to have them come, and in the second place the information for which they are seeking must be placed at their disposal.

COLOMBIA.

PRIMARY SCHOOL TEACHERS MUST BE CITIZENS—UNIVERSITY DIPLOMAS.

Consul Isaac A. Manning, of Cartagena, sends the following information of changes in the Colombian educational system:

Under a new law passed by the Colombian Congress teachers in the primary schools of Colombia will hereafter be required to be citizens of the Republic.

A new decree has also recently been issued by the minister of public instruction, under which diplomas issued by the following colleges and universities will be recognized officially by the department of public instruction: University of Bogotá; University of Antioquia at Medellin; College of Boyacá in Tunja; University of Popayán; University of Bolívar at Cartagena; National and Departmental Institute of Pasto; College of Santa Librada of Neiva; College of San Simón of Ibagué; Colegio Dental of Bogotá; Academia Nacional de Musica at Bogotá; Escuela Nacional de Bellas Artes at Bogotá; normal schools established by the Government; Beethoven Academy of Bogotá; Colegio Mayor de Nuestra Señora de Rosario; the colleges of the country directed by the Society of Jesus; Institute of the Christian Brothers (Hermanos Cristianos).

In order that these diplomas may be officially recognized it will be necessary that the institutions shall notify the minister officially that the diploma has been regularly issued. No private institution is authorized to issue diplomas in the name of the minister of public instruction.

MEXICO.

GOVERNMENT AID TO THOSE SEEKING TECHNICAL INSTRUCTION.

The Government School of Arts and Trades at Mexico has been greatly improved lately, according to the Mexican Herald, which says:

The new foundry and blacksmith shop have recently been completed. The former has a reducing oven with 1½ tons capacity and a derrick with a lifting capacity of 5 tons. It also has departments for models, coal, drying ovens,

molds, and a complete electric installation to propel the machinery. The blacksmith shop has 12 foundries and an electric installation also with a motor of 5 horsepower, as well as departments for tools, etc. In each of the departments 50 students can work comfortably at one time.

Among the new workshops which will be used at the opening of the school year are the carpenter shop, paint shop, and machine shop.

Worthy students without means can obtain an education and acquire a trade at the expense of the Government, with food and clothes in addition to the regular instruction.

SPAIN.

ORGANIZATIONS BEING FORMED FOR THE STUDY OF ESPERANTO.

Consul-General Frank D. Hill, of Barcelona, writes that more than 50 organizations have been formed in Spain for the study of Esperanto. In the matter of language it must always be remembered that Catalan, a Limousin speech akin to the Provençal of the South of France, is the familiar language of Catalonia, Valencia, and the Balearic Islands, many newspapers and books being printed in it, and English plays, written in Catalan, running a whole season at Barcelona this year. Spanish or Castilian is, of course, generally, if in cases imperfectly, understood.

ASIATIC TURKEY.

EUROPEAN METHODS IN THE COMMERCIAL SCHOOL AT SMYRNA.

Consul-General Ernest L. Harris, of Smyrna, reports that the management of the commercial school which was established in that city about two years ago now intends that every effort shall be made to teach the young Turks commercial and business methods upon the European plan. Apart from Turkish, English, French, and German will be the chief languages taught, together with all subjects usually contained in the curriculum of a commercial school.

INTERNATIONAL EXPOSITIONS.

UNITED KINGDOM.

DISPLAY OF PRODUCTS OF THE UNITED STATES AT LONDON NEXT YEAR.

The announcement is made that a Golden West and American Industries Exhibition is to be held at Earls Court, London, England, from May to October, inclusive, 1909.

The commissioner for the United States in this enterprise is J. W. Ryckman, who may be addressed for the present at The Ansonia, Seventy-third street and Broadway, New York City. He states in a letter to the Bureau of Manufactures:

This exhibition will be conducted under most distinguished British and American patronage (the Lord Mayor of London heading the advisory committee, which includes also a number of American consuls in the United Kingdom). It will take place in England's most popular exposition grounds, in which the first and only distinctively American exhibition in the United Kingdom was held in 1887. That exhibition was successful in promoting an immense increase in the commerce of this country with Great Britain and Europe, and it is quite certain that the one now being organized will be of immeasurable service in bringing about a still larger participation of American manufacturers and producers in the commerce of Europe. The opportunity is timely and exceptional.

The exhibition of any invention will not prejudice the inventor's right to apply for and obtain a British patent, provided the exhibitor gives notice to

the comptroller of the British patent office of his intention to exhibit the invention, and before or with six months from the date of the opening of the exhibition applies for a patent.

INTERNATIONAL AND COLONIAL EXHIBITION NEXT YEAR.

Consul-General Robert J. Wynne, of London, reports that he is in receipt of a communication from Mr. Imre Kiralfy, commissioner-general of the Franco-British Exhibition, stating that it has been decided to hold in the palace and grounds at Shepherds Bush, London, during the summer of 1909 a great international and colonial exhibition, expressing the hope that the project will have the cooperation of the United States Government.

With a view to making the exhibition a success, the commissioner requests to be placed in communication with commercial and industrial bodies who take particular interest in exhibition matters, in order to secure an important display of exhibits from the United States.

GERMANY.

INTERNATIONAL ART EXHIBITION NEXT YEAR AT MUNICH.

Count von Hatzfeldt-Wildenburg, the German chargé d'affaires at Washington, transmits copies of a programme of the Tenth International Art Exhibition, to be held at Munich from June 1 to October 31, 1909. The collective exhibits will be from the various European countries and the United States, to which are admissible works of art in the different branches—painting, sculpture, architecture, engraving, and art industry. First and second class gold medals will be awarded on the basis of artistic value of the works alone, without regard to distribution among states or art centers. A limited number of the programmes printed in English may be obtained from the Bureau of Manufactures. The German chargé d'affaires in forwarding these writes in part:

The Royal Bavarian Government and the Munich Artists' Association, in conjunction with the Munich Secession (school of impressionist art) will direct all their energy toward insuring as full success to this exhibition as accompanied its predecessors, and with the cooperation of foreign countries, toward making it afford a brilliant representation of international art.

If there should be a large participation of American artistic circles in the exhibition, the German Imperial Government would have no objection to sending a special government commissioner to represent them.

RUSSIA.

EXHIBITION OF INVENTIONS AND APPLIANCES AT ST. PETERSBURG.

In reporting that an international exhibition of latest inventions will be held from April 21 to June 23, 1909, in St. Petersburg in the Michael Manege, Consul James W. Ragsdale outlines the programme:

It will be organized by the Society of Military, Marine and Rural Science, which enjoys the Imperial patronage. The programme of

said exhibition embraces subjects referring to military and maritime technics, to the management of estates, to ways of communication, to constructive work and to other branches of national economy, as, for instance, to new industrial and factory appliances, to electrotechnics, to novelties contributory to the comfort of the home and to improvements in fire-fighting appliances.

New inventions in the sphere of the fine arts, medicine, sport, etc., are also included in the programme. Exhibitors may benefit by free return carriage of their goods from the exhibition. Foreign exhibits will be admitted duty free on condition that they be returned abroad within two months from the closing of the exhibition. Exhibitors will be required to remove their goods within five days from the close of the exhibition. Applications to participate in said exhibition must be presented not later than January 14, 1909.

JAPAN.

POSTPONEMENT OF THE INTERNATIONAL EXPOSITION.

The State Department makes the announcement officially that the world's fair which was to have been held at Tokio in 1912, has been postponed by the Japanese until the year 1917.

A FLOATING EXHIBITION.

HOW ORIENTALS MIGHT SEE GOODS BEFORE THEY PURCHASE.

Consul Jacob E. Conner, of Saigon, believes that a floating exhibition of American export products would be an excellent advertising scheme in the Orient, and especially in French Indo-China. He says:

Some of our enterprising Western cities have, at various times, in the interest of their real estate and commercial development, equipped railway cars with an elaborate exhibition of their products and resources and dispatched them to distant parts of the country as advertising ventures. As this has been frequently repeated, it is presumed that the advertising paid. Now, in the same manner a ship could be chartered and equipped with a goodly exhibition of American produce and manufactures and could be used in some parts of the world with most gratifying results. Suppose that it be designed for a particular region, such as the Oriental Tropics, and the exhibition selected accordingly. Its itinerary need not last too long, when it could return for another exhibit. The cargo could be as varied as the products of the exhibitors. It could be designed with a view to taking orders, to taking large orders, perhaps to be filled by cable. Its itinerary could be designed long enough in advance to lay the consular service under contribution for much valuable information. For instance, business directories, subscription lists, local maps, and trips to nearby inland points could all be arranged for in advance.

DEFINITE KNOWLEDGE OF MARKET—CONCRETE ADVERTISING.

Best of all, perhaps, would be the first-hand knowledge gained by each line represented concerning the needs of each particular market visited. There is so much to be seen and there are so many interests

to be served that consular reports can not tell it all. Again, American merchants do not go abroad nor establish branches in this part of the world, consequently a more concrete form of advertising is needed than can be put into catalogues. Foreign merchants may be willing to purchase American goods, but they will certainly insist on seeing the goods if these are new to them. In this market nearly all American goods are new to the trade.

Such a venture as this would cost something. It would cost less, relatively, than the advertising car. A part of the expense would be covered by the orders taken, and it is conceivable that it might even be made a paying venture. The soundness of this scheme from the point of view of French Indo-China is unquestionable. It would be distinctly and characteristically American, and just at this juncture it would appeal all the more to the imagination, as good advertising should, because of the amount of attention given to the voyage of the American fleet to this region.

ARMORED FIRE DOORS.

NEW BRITISH CONSTRUCTION FOR USE IN MILLS AND WAREHOUSES.

Consul Church Howe sends from Manchester the following description of the armored door which is taking the place of the iron door in British warehouses and factories:

Within the last few years a great change has been taking place in the materials employed for the construction of fire-resisting doors. Formerly it was supposed that these doors must be made of iron or steel, and although doors made of these materials were often found useless, owing to their liability to buckle, and consequently to tear themselves from their fastenings when exposed to extreme heat, it is only comparatively lately that a really effective substitute has been discovered.

Although the iron door is still made use of occasionally in all classes of buildings, and I understand with comparative frequency in Manchester warehouses, one finds that in buildings designed for manufacturing purposes, and especially in textile factories, the armored door is rapidly taking its place, and giving satisfaction.

The armored type of fire door is constructed of several thicknesses of well-seasoned pine boards, planed, tongued, and grooved, and nailed together with wrought-iron nails driven flush and clinched on the other side.

The wood is then completely covered with tinned-steel sheets of not less than No. 26 standard wire gage, each sheet being of a limited size, lock jointed, and fitting close to the wood, so that while free to expand, they exclude the air and can not become detached.

By this means combustion is prevented, and it is found that an exposure of several hours to the fiercest heat results only in the surface of the outer boards becoming slightly carbonized to the depth of a fraction of an inch.

The British insurance companies under their tariffs specify that openings to be protected by fire-resisting doors must not exceed 9 feet in height or 45 superficial feet in area. [Five illustrations of armored "fire-proof" doors forwarded by the consul may be seen at the Bureau of Manufactures.]

GERMAN SCIENTIFIC EXPEDITION.

GROUP OF SCIENTISTS WILL SPEND TWO YEARS IN SOUTHERN SEAS.

Vice-Consul Ernest Vollmer, of Tsingtau, China, transmits the following account of an expedition of German scientists which left Hongkong for the South Seas for the purpose of studying the ethnography, zoology, and botany of those regions:

The German steamship Peiho has left Hongkong for the German possessions in the South Seas with a party of scientists, where two years will be spent in research work. The expedition is being sent out by the Hamburg Scientific Institution, and is in charge of Doctor Thilenius. To begin with, work will be done in ethnography, zoology, and botany, while other branches may be taken up later. The Hamburg museum has a fine collection of arms, implements, and idols, so that it is hoped to make a complete South Sea collection. The staff of the expedition consists of Professor Fulleborn, an East Africa explorer and assistant at the institute for tropical diseases at Hamburg; Doctor Duncker, of the natural history museum at Hamburg; Doctor Esche, the chief of the bureau for ethnography; and Doctor Muller, another specialist in ethnography. A special collector is F. E. Hellwig, who has lately given the bureau for ethnography a collection from the Bismarck archipelago. H. Vogel, an artist and painter, accompanies the expedition, and will take photographs and cinematograph pictures, and make sketches and water-color drawings of such objects as are desired.

FIRE INSURANCE IN COLON.

AN INVITING FIELD FOR AMERICAN COMPANIES IN PANAMA CITY.

Consul James C. Kellogg calls the attention of American fire insurance companies to the opportunities for increasing their business in Colon, which could be materially augmented provided that they would lower the high rate of 8 per cent existing in that city in Panama:

The fire risk in this city is much less than formerly, owing to the great improvement in the local sanitary and hygienic measures, and the increased facilities for fighting fire. Until quite recently the fire insurance rate stood at 8 per cent. Upon the strength of a report made by Mr. E. A. Kelly, a representative of ten foreign and one American fire insurance companies, who has located in Colon, the rate has been reduced by the companies in question to 7 per cent, which is still too high under present conditions.

For the benefit of those companies who wish to know the actual state of affairs prevailing here, and who may desire to compete for the local fire insurance business, a copy of the report made by Mr. Kelly to the home office in New York City is forwarded [and may be seen at the Bureau of Manufactures].

Judging from the interviews I have had with local property owners and business firms, there is every reason to believe that, if the rate of insurance could be reduced to 5 per cent, a large business could be transacted here. Almost all of the insurance policies held here are written by foreign companies.

AMERICAN REFRIGERATOR SUCCESS.

COMBINED ICE MACHINES AND COLD-STORAGE APPARATUS IN MEXICO.

Consul-General Benjamin H. Ridgely, of Mexico City, makes the following report on the introduction of American household refrigerating and ice-making equipments in the Mexican capital:

A contract has just been made in Mexico City for the installation of 60 combined ice machines and refrigerators in a large new apartment building. These machines are operated by a small electric motor and are to be capable of producing 10 pounds of ice daily, and also of refrigerating all the provisions necessary for a small family. The price paid for them is not stated, but it is understood that the proprietor of the building in question adds 7 pesos ($3.50 United States currency) to the monthly rental of each apartment to cover the cost of the refrigerator.

This is another evidence of the fact that American refrigerators are the best and most practical in the world, as strong efforts have been made here to introduce German refrigerators of a cheaper grade and price into Mexico, but unsuccessfully.

GERMAN ICE SKATING RINK.

A PERMANENT ONE RECENTLY ESTABLISHED IN BERLIN.

In reporting that Berlin's new all-the-year-round ice skating rink opened September 1, Deputy Consul-General John W. Dye writes:

This makes the fourth permanent ice rink in Europe, the others being located in London, Paris, and Munich. The surface of the indoor pond is 2,000 meters square, and it is claimed that over 1,000 persons can skate at one time without crowding. The gallery will seat 3,000 people, and the management expect to conduct skating races and contests at all seasons of the year. In connection with the rink are a restaurant and cafe and rooms for athletic clubs. The rink will be open every day from 9 a. m. to 12 p. m., and the admission price has been fixed at 75 pfennigs (18 cents) for the day and 1 mark (about 24 cents) for the evening hours.

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England's Cotton Industry.
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No. 1. Tariffs on Leather and its Manufactures.
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Asiatic Turkey.
Brazil.
Central America and West Coast of South America.
China.
Cuba.
India.
Japan and Korea.

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VALUES OF FOREIGN COINS AND CURRENCIES.

[As given by the Director of U. S. Mint and published by Secretary of the Treasury July 1, 1908.]

COUNTRIES WITH FIXED CURRENCIES.

Countries.	Monetary unit.	Value in U. S. gold.	Coins.
Argentina	Peso	$0.965	Gold—argentine ($4.824) and ½ argentine; silver—peso and divisions.
Austria-Hungary	Crown	.203	Gold—10 and 20 crowns; silver—1 and 5 crowns.
Belgium	Franc	.193	Gold—10 and 20 francs; silver—5 francs.
Brazil	Milreis	.546	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British N. A. (except Newfoundland).	Dollar	1.00	
British Honduras	do	1.00	
Chile	Peso	.365	Gold—escudo ($1.825), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Colombia	Dollar	1.00	Gold—condor ($9.647) and double condor; silver—peso.
Costa Rica	Colon	.465	Gold—2, 5, 10, and 20 colons ($9.307); silver—5, 10, 25, and 50 centimos.
Denmark	Crown	.268	Gold—10 and 20 crowns.
Ecuador	Sucre	.487	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt	Pound (100 piasters).	4.943	Gold—pound, 5, 10, 20, and 50 piasters; silver—1, 2, 5, 10, and 20 piasters.
Finland	Mark	.193	Gold—10 and 20 marks ($1.93 and $3.859).
France	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Mark	.238	Gold—5, 10, and 20 marks.
Great Britain	Pound sterling	4.866½	Gold—sovereign (£) and half sovereign.
Greece	Drachma	.193	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	Gourde	.965	Gold—1, 2, 5, and 10 gourdes; silver—gourde and divisions.
India	Pound sterling[a]	4.866½	Gold—sovereign (£); silver—rupee and divisions.
Italy	Lira	.193	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan	Yen	.498	Gold—5, 10, and 20 yen; silver—10, 20, and 50 sen.
Liberia	Dollar	1.00	
Mexico	Peso[b]	.498	Gold—5 and 10 pesos; silver—dollar[c] or peso and divisions.
Netherlands	Florin	.402	Gold—10 florins; silver—2½, 1 florin, and divisions.
Newfoundland	Dollar	1.014	Gold—$2 ($2.028).
Norway	Crown	.268	Gold—10 and 20 crowns.
Panama	Balboa	1.00	Gold—1, 2½, 5, 10, and 20 balboas; silver—peso and divisions.
Peru	Libra	4.866½	Gold—½ and 1 libra; silver—sol and divisions.
Philippine Islands	Peso	.50	Silver—peso, 10, 20, and 50 centavos.
Portugal	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	Ruble	.515	Gold—5, 7½, 10, and 15 rubles; silver—5, 10, 15, 20, 25, 50, and 100 copecks.
Spain	Peseta	.193	Gold—25 pesetas; silver—5 pesetas.
Sweden	Crown	.268	Gold—10 and 20 crowns.
Switzerland	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Piaster	.044	Gold—25, 50, 100, 250, and 500 piasters.
Uruguay	Peso	1.034	Gold—peso; silver—peso and divisions.
Venezuela	Bolivar	.193	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

COUNTRIES WITH FLUCTUATING CURRENCIES.[d]

Country and monetary unit.	Oct. 1, 1907.	Jan. 1, 1908.	Apr. 1, 1908.	July 1, 1908.
Bolivia:	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Silver boliviano	49.9	42.9	40.8	39.3
Central America:				
Silver peso	49.9	42.9	40.8	39.3
China:				
Amoy tael	81.8	70.4	66.8	64.4
British dollar	53.8	46.3	43.9	42.3
Canton tael	81.5	70.2	66.6	64.2
Chefoo tael	78.2	67.3	63.9	61.6
Chinkiang tael	79.9	68.8	65.3	62.9
Fuchau tael	75.6	65.1	61.8	59.5
Haikwan (customs) tael	83.2	71.6	68.0	65.5
Hankow tael	76.5	65.9	62.5	60.2
Hongkong dollar	53.8	46.3	43.9	42.3
China—Continued.	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Kiaochow tael	79.2	68.2	64.8	62.4
Mexican dollar	54.2	46.6	44.3	42.7
Nankin tael	80.9	69.7	66.1	63.7
Newchwang tael	76.7	66.0	62.7	60.4
Ningpo tael	78.6	67.7	64.2	61.9
Peking tael	79.7	68.6	65.1	62.8
Shanghai tael	74.7	64.3	61.0	58.8
Swatow tael	75.5	65.0	61.7	59.5
Takau tael	82.3	70.8	67.2	64.8
Tientsin tael	79.2	68.2	64.8	62.4
Persia:				
Silver kran	9.2	7.9	7.5	7.2
Straits Settlements:				
Silver dollar	56.8	56.8	56.8	56.8

[a] The rupee, $0.32444, 15 to the sovereign, constitutes the money of account.
[b] Seventy-five centigrams fine gold.
[c] Value in Mexico, $0.498.
[d] Coins of silver-standard countries are valued by pure silver content at average market price of silver for the three months preceding date of circular issued by United States Treasury Department.

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FOREIGN COMMERCE.

SIBERIA.

GENERAL DEVELOPMENT.

AREA, POPULATION, COMMUNICATIONS, TRADE, AND INDUSTRIES.

The following report, covering the geographical divisions, population, railways, canals, shipping, commerce, and industries of Siberia, together with the opportunity which it offers for American trade, has been prepared by Vice-Consul Charles Lyon Chanler, of Dalny:

Siberia, as considered by the Russians, embraces the two political divisions of Western and Eastern Siberia. Western Siberia is composed of the governments general of Tobolsk and Tomsk, and Eastern Siberia of the governments general of Irkutsk and the Amur. The government general of Irkutsk is in turn divided into the governments of Yeniseisk and Irkutsk and the Province of Yakutsk; while the government general of the Amur embraces the Province of Transbaikalia, the Amur Province, and the Maritime Province (Primorskaya), the latter comprising the Russian half of Saghalien and the Peninsula of Kamchatka.

The following statement shows the area and population of the several divisions:

Divisions.	Area.	Population, January 1, 1906.	Density per square mile.
	Sq. miles.		
Amur, province	172,826	148,700	0.84
Irkutsk, government	280,429	552,700	1.97
Primorskaya, province	712,585	252,100	.35
Saghalien, section	16,598	17,000	1.02
Tobolsk, government	535,739	1,656,700	3.09
Tomsk, government	327,173	2,412,700	7.49
Transbaikalia, province	229,520	742,200	3.23
Yakutsk, province	1,530,253	300,600	.57
Yeniseisk, government	981,607	657,900	.67
Total	4,786,730	6,740,600	1.41

This area does not include inner waters, and the population is based on estimations on the basis of the census of 1897 and the yearly increase, according to the last issue of the Russian central statistical committee (1906).

The population of Siberian cities, mostly based on the 1900 census, is as follows: Tomsk, 63,533; Irkutsk, 51,473; Vladivostok, 38,000; the population of Vladivostok in 1908 is estimated at 60,000, and is very rapidly increasing; Omsk, 37,376; Blagovyeshtchensk, 37,368;

Krasnoyarsk, 33,337; Barnaul, 29,850; Tyumen, 29,651; Nikolsk, 22,000; Irbit, 20,062.

There is very little city life in Siberia. In 1902 only 8 per cent of the population of Siberia lived in cities, and the general growth of most Siberian cities is slow, though there are a few "boom towns," as Stretensk, which grew from 1,710 in 1897 to 8,000 in 1900.

According to the medical department of the ministry of the interior, the vital statistics for 1904 were: Births, 874,311; deaths, 542,775; increase, 331,536.

THE IMMIGRATION MOVEMENT.

On December 10, 1892, the Trans-Siberian Railway committee was created to colonize the land opened by that road, and generally to promote the economic development of Siberia. The committee began at once to promote emigration from European Russia to Siberia, and as a result of their endeavors, not merely did the numbers of the emigrants greatly increase, but their mortality rapidly diminished. In 1894, of 56,000 emigrants, 3,000 died on the way; while in 1899, of 220,000 emigrants, only 300 died on the way. From 1861 to 1892, 550,000 Russian farmers entered Siberia, while from 1893 to 1899 these figures rose to 1,000,000. This great increase was due not only to cheaper and better methods of travel, but to the better terms on which land could be obtained, and to the constant care and watchfulness of the committee mentioned. Before the Russo-Japanese war most of the emigrants did not go beyond Lake Baikal, remaining in the governments of Tobolsk and Tomsk and in the district of Akmolinsk, where they found the soil much better, on the average, than that of those parts of Russia whence they came. At the present time every colonist arriving in Siberia receives 37 acres of land free, paying no taxes on this land for the first three years, and only half the regular taxes for the next three. Penniless emigrants have their passage paid by the Government, and wood from the Crown lands to build their houses.

The Government has established depots for the sale of agricultural implements of all kinds to the immigrants, often selling them at reduced rates and on easy terms of payment. During 1907 over 500,000 persons, according to the latest official figures, emigrated from European Russia to Siberia, and of this record-breaking number fewer than ever before returned to their former homes.

EXTENSION OF RAILWAYS.

In 1877 the Samara-Orenburg Railway was completed, uniting the fertile South Ural steppes to European Russia, and on November 7, 1901, through rail communication was established between European Russia and the Russian port of Vladivostok, on the Pacific coast, by the completion of the Trans-Siberian Railway, begun at Vladivostok in 1891. This railway, which is 4,125 miles in length from Tcheliabinsk to Vladivostok (and 6,677 miles from St. Petersburg to Vladivostok), does not at present (August, 1908) pass wholly through Russian territory, traversing for 1,072 miles of its length the Chinese provinces of Hoi-Lung-Kiang and Kirin, the northernmost provinces of Manchuria. This portion of the line is operated by the Chinese Eastern Railway Company, a nominally Chino-Russian corporation.

At the end of the year 1903 the cost of the Trans-Siberian Railway was $172,525,000. From motives of economy the railway was laid

out in as straight a line as possible, passing 45 miles from the large and important city of Tomsk, while the important cities of Tcheliabinsk, Kurgan, and Omsk are all from 1 to 6 miles from their respective stations. The station of Irkutsk is separated from the city of that name by the broad river Angara. Save for the bridges over the large rivers, such as the Irtish, Obi, and Yenisei, and the tunneling around the southern end of Lake Baikal, no special technical difficulties were encountered in building the Trans-Siberian Railway; in fact, these tunnels around the southern end of Lake Baikal are, with but one exception, the only ones on the whole line of the railway.

Since the war the traffic on the railway has greatly increased, making it one of the greatest highways of the world's commerce. Through tickets to points in the Far East via the Trans-Siberian are now sold at all the principal European cities and at several places in the United States. The journey between Vladivostok and Irkutsk takes four and a half days, and that between Moscow and Irkutsk six and a half days, making eleven days between Vladivostok and Moscow. The journey between Vladivostok and Harbin takes thirty-six hours, and Peking may be reached in eighteen or nineteen days from the chief European capitals by rail. In addition to the regular Government biweekly Trans-Siberian express, an international train de luxe is run weekly, and this, though more expensive, is much more comfortable and convenient for passengers.

REVENUE AND BRANCHES.

No later figures for the Trans-Siberian passenger and freight traffic and receipts are available than the following, but it is believed that the increase of 1906 over 1905 will not merely be maintained, but will be exceeded in 1907 and 1908.

Year.	Passengers.	Freight.	Receipts.
		Tons.	
1905	1,565,000	241,600	$14,072,000
1906	1,841,000	259,200	18,838,000

The most important branches of the Trans-Siberian Railway are those between Taiga and Tomsk, about 45 miles in length, built to connect Tomsk with the main line of railway, and from Karamskaia to Stretensk on the river Shilka, which it is proposed to continue along the Amur to Blagovyeshtchensk and Kharbarovsk, giving Russia a trans-Asiatic railway entirely in her own territory. Nearly 200 miles of this railway are now (August, 1908), in working order, but it will be at least four years before it can possibly be completed. The important railway from Nikolskoe to Khabarovsk, in the Primorskaya, or Maritime Province, is 474 miles long, and is of great strategic and commercial importance. Its growing prosperity may be seen from the following table, the figures being the latest available:

Year.	Passengers.	Freight.	Gross receipts.
		Tons.	
1905	557,000	28,800	$1,249,000
1906	779,000	56,000	3,219,000

It is expected that those for 1907 and 1908 will, owing to the great influx of immigrants into this region, show a marked increase.

Though this railway connects with the Trans-Siberian at Nikolskoe, passengers on the latter can not change cars there, as the trains on this railway all start from Vladivostok. This railway is often called the Ussurian railway, as it passes near the river Ussuri.

INLAND WATERWAYS.

Siberia has many navigable rivers. The Obi, the Yenisei, the Lena, and the Amur, with their tributaries, make communication easy between the interior of Asia and the Arctic and Pacific oceans. These rivers are, however, only navigable for a small part of the year, owing to the severity of the long Siberian winter. The Obi and its tributaries water more than 2,000,000 square miles of territory and are 3,875 miles long; and the Irtysh is the highway followed by Siberian trade going across the Urals to European Russia. While the river Yenisei is nearly as navigable as the Obi, it is not nearly so important, as it passes through a less cultivated and more sparsely peopled country. The Amur is a splendid natural highway, busy with traffic, and the Irtysh is a beautiful and much-used stream. The Angara, on which Irkutsk is situated, is of less importance, and the Lena, while large on the map, is too far north to be of much commercial value.

While merely of local importance as far as traffic and commerce are concerned, Lake Baikal, extending from 51° 29′ to 55° 50′ north latitude and from 103° to 110° longitude, deserves attention as the sixth in size of all the lakes of the world, being 376 miles long and from 20 to 70 miles wide. Its area is 13,500 square miles, and it is some 1,500 feet above sea level. The greater part of this lake is of extraordinary depth, the maximum being 791 fathoms. Lake Baikal receives more than 300 streams of various sizes, but has only one outlet, the lower Angara.

The only canal of importance in Siberia is that between the rivers Obi and Yenisei, joining the cities of Tyumen and Irkutsk. This canal was opened in 1894, and is 62 miles long. It has not proved a commercial success, owing to the competition of the railway, the high rates, the short season, and its remoteness from centers of trade.

OCEAN COMMUNICATIONS AND TRADE.

In 1874, an English merchant explorer was the first to sail from Europe to the mouth of the Yenisei River. He continued to make this voyage at irregular intervals for the next few years, and in 1887 English capital became invested in the enterprise of opening this line of communication. A company was formed to trade from London into the interior of Siberia by the river route. This soon failed, and trade was established on a genuinely commercial basis by a London merchant, whose fleet sailed from Hull or London near the end of July, steamed into the Kara Sea, and reached the mouth of the Yenisei River in three weeks. When the steamers arrived their cargoes were transferred to light-draft barges in tow of steamers, the larger vessels returning to London, leaving the river fleet to move up the Yenisei to Krasnoyarsk, where the Trans-Siberian Railway crosses the Yenisei.

The difficulties of transport across Siberia, and the quickened interest of all Russians during the Russo-Japanese war about their

Asiatic dominions, caused the appointment, in 1905, of a commission to test the practicability of this Kara Sea-Yenisei-Krasnoyarsk route on a large scale. The work was carried on with the most strenuous energy and skill, and remarkable time was made on the trial trip, in July, 1905, along the entire route, large vessels laden with iron, coal, and other supplies being selected to make the test. The official report of this journey, which has just been published, states that this voyage fully demonstrated the practicability of this Arctic Sea route for commercial navigation from the Murman coast (on the Arctic Ocean, in the province of Archangel, in European Russia) to the mouth of the Yenisei for from two to two and a half months in the summer season. The wide channels opened between the ice and the coast in Barents Sea in summer always afford good navigation to the Kara Sea. The difficult part of the voyage is in the Kara Sea, but according to our present knowledge the route is always open along one of two passages along this expanse during the two to two and a half months that there is any possibility of making the journey. Operations are now under way to make the whole river Yenisei to the Siberian railway at Krasnoyarsk available for European commerce during the season of navigation. The Russians are very desirous of establishing a steamship route around Cape Chelyuskin and completely around Siberia to Bering Strait, but the difficulties of climate have thus far proved insuperable.

INDUSTRIES AND MINERAL PRODUCTION.

The vast area of Siberia is as yet scarcely touched commercially, when we consider the richness and capability of production of its soil and its constantly growing population. Factories are few, and nearly all these are mills, butter factories, alcohol distilleries, tanneries, and foundries, making local products into cheap articles for local consumption. Most of the foundries are very small and unimportant. The Trans-Siberian Railway has made it so easy to bring all goods of the better quality from European Russia and from abroad that it does not yet pay to manufacture high-grade articles for use in Siberia, with its comparatively scanty population.

Mining has the greatest future of any Siberian industry. Gold in placers is the chief mineral product at present. The chief centers of gold mining are the Altai, the Mariinsk district of Tomsk, the southern parts of the province of Yeniseisk, the Yeniseisk district in the north of the same province, the Nerchinsk and the Vitim districts of Transbaikalia, the Olekma and Vitim districts of Yakutsk, and the Bureya and Zeya districts of the Amur province. Some gold is also extracted by the Chinese in the south Ussuri region. No statistics as to the amount of gold produced in Siberia can be obtained, as the figures are contained in the total output of the Russian Empire.

The average annual production of pig iron in the Ural and Siberia (separate statistics for Siberia not given) from 1902 to 1906, inclusive, was 657,440 tons. The Siberian output of coal, chiefly from the province of Akmolinsk, rose from 660,770 tons in 1902 to 1,325,400 tons in 1905. Copper is mined in small quantities. More and more foreign capital is becoming interested in the mineral wealth of Siberia, and American miners are prospecting in those parts of the Primorskaya, opposite and near Alaska. The engineers of the trans-

Siberian committee have undertaken to thoroughly investigate the mineral resources of Siberia and have discovered the oil wells of Soudjenka and Tcheremkovo, which furnish some oil for the Trans-Siberian Railway.

AGRICULTURAL PRODUCTS, BUTTER AND MEAT EXPORTS, ETC.

In 1906, in the four governments of Tobolsk, Tomsk, Yeniseisk, and Irkutsk, the area under crops was as follows, in acres: Cereals, 9,773,000; potatoes, 171,000; grass land, 10,645,000; total, 20,589,000.

The average yield of cereals, potatoes, and hay, in tons, was as follows:

Crops.	1901-1905 (average yield).	1906.
	Tons.	*Tons.*
Wheat	893,712	1,228,400
Rye	581,624	688,560
Oats	684,384	979,120
Barley	76,880	109,216
Various	53,824	82,656
Total cereals	2,290,424	3,148,952
Potatoes	386,024	408,096
Hay	.....	7,325,874

In 1900 it was estimated that out of a total of 19,727,000 acres of cultivated land, 11,625,000 acres were under crops in Siberia. Crops greatly fluctuate in Siberia; the yield in a good year is two or three times that of a bad one.

Siberia's exports of dairy products are rapidly increasing, and have a most promising future. In 1898, 4,000 buckets of butter, each containing 36 pounds, were sent, as an experiment, to the London market; 30,000 buckets of butter a week were sent thither in 1901. The pasturage in this butter-producing region, which lies chiefly in the district of Tomsk, is so good that there is 7 per cent of butter fat in the milk. In 1901 there were only two steam dairies in Siberia, nearly all the butter being made in a primitive fashion by hand. Later information concerning this industry is not available, but it is believed that but few, if any, more steam dairies are now in operation. In the eight governments of Russia in Asia there were 4,938,000 horses, 5,712,000 horned cattle, 11,921,000 sheep and goats, and 898,000 pigs, in 1907.

In 1900 the number of reindeer in Siberia was estimated at 206,420. Transbaikalia exports cattle to the Amur, and, in 1899, 113,772 tons of beef and pork were shipped from Siberia. It is expected that, should this industry develop as it has done in the past, Siberian meat may compete with that from New Zealand and the United States in China and Japan. In 1902 a Danish firm was the first to export salted beef, mutton, and pork from Siberia to London. Their success showed that Siberian mutton was good enough to compete with the best Icelandic mutton, and may in future become an important factor in the meat markets of Western Europe. In 1902 the first canning establishment in Asiatic Russia was opened at Omsk. Exports of hides and skins from Siberia increased from 2,800 tons in 1899 to 5,200 tons in 1902. More than 1,600 tons of Siberian eggs are exported annually, many of them finding their way to the London market.

FISHERIES AND FORESTRY—FAIRS AND COMMERCE.

The fisheries of Siberia are very important; the river Amur is especially rich in salmon. The amount of preserved fish exported from Siberia grew from 640 tons in 1899 to 2,000 tons in 1902. The high price of salt and tin plate, and the lack of skilled knowledge, are retarding the Siberian canned-fish industry.

The vast coniferous forest zone of Siberia is yielding ever-increasing quantities of timber. On January 1, 1906, the state forests of Russia in Asia included 361,945,497 acres, exclusive of the Amur region, which had 288,742,000 acres; total 650,687,497 acres. The timber industry has scarcely begun to be developed in Siberia.

The fair holds an important position in the commercial life of Siberia. Though not strictly speaking within the limits of Siberia, the great annual fair of Irbit is held so near the borders that it serves as a vast mart for the exchange of Siberian products with those of Europe. In Tobolsk government 507 annual fairs are held, in Tomsk 68, in Yeniseisk 13 small ones, and in Transbaikalia (Irkutsk and Yakutsk) from 3 to 12. The aggregate returns of all these fairs is $25,000,000 a year.

Siberia's chief exports to Russia are grain, cattle, sheep, animal products, furs, game, feathers, and down, and the chief imports therefrom are iron and steel, machinery of all kinds, especially farming machinery, cement, and manufactured articles of various kinds, these latter coming chiefly from Lodz and other industrial centers in Poland. As there is only one sugar refinery in Siberia, that in the government of Yenisei, much sugar is imported through European Russia. Tobacco and petroleum likewise are sent from European Russia to Siberia in ever-increasing quantities. The balance of Siberian-Chinese trade is greatly in favor of China; Siberia imports $10,000,000 worth of goods from China annually, almost entirely tea, by caravan, while Siberia only exports to China $750,000 worth of articles annually, and many of these originated in European Russia, merely passing through Siberia in transit.

OPPORTUNITIES FOR AMERICAN TRADE.

Few countries in the world offer such opportunities for American trade and commerce of all kinds as do Siberia. There is no other country so vast and so temperate in climate whose resources are in such a partial stage of development, or whose mineral wealth, now mostly latent, only awaits the pick and shovel of the prospector. The English traveler Fraser, journeying through Siberia in 1901, was everywhere struck with the prevalence of American machinery and of American goods of all kinds. The needs of Siberia so closely resemble those of our own great West that no peculiar or rare machinery needs to be made for export thither.

The extension of the enormous Trans-Siberian Railway line, and the new railways to be built in Siberia, will create a demand for more of that American rolling stock which has stood the test so well on the trans-Siberian and other Asiatic railways, as well as for new and finer types required by the development of Siberian industries, viz, refrigerator cars for butter, meat, and eggs, and Pullman and library cars for the constantly developing tourist travel. Harvesting and farming machinery of all kinds will always find a ready

market on some of the most fertile plains in the world—plains every year extended by the gradual diminution of the forests and remarkable increase of population.

American firms sending representatives to seek business in Siberia should only employ men with a thorough knowledge of the Russian language, who should be fully conversant with the somewhat peculiar business conditions often prevailing in Siberia, as in most new countries. All circulars and descriptive matter should be in good, clear Russian; English advertising matter is worse than useless. A salesman should carefully plan his tour through Siberia, and have enough money for emergencies.

CHINA.

TRADE ON THE YANGTSE.

PREPARATORY OPPORTUNITIES WHICH MUST BE CULTIVATED.

Consul J. C. McNally, of Nanking, furnishes the following information concerning present trade conditions on the Yangtse and the necessity of preparatory work to meet the enlarged trade of the near future:

A great discomfort in the intervening Yangtse River ports between Shanghai and Hankow, which are 600 miles apart, is the lack of ice during the period of excessive heat, and, while the above cities mentioned enjoy the product of ice machines, although at an apparently excessive cost, the interior ports are too far removed to partake of the benefits. Nanking, with a population of 400,000, 212 miles from Shanghai, makes no attempt to import ice from that port, and the only ice to be had here is in the form of slush ice taken from various stagnant ponds and pools by some enterprising Chinese, who, by means known only to themselves, are able to keep a limited supply for the summer months, which they retail at a cent a pound.

Chinking, with a population of 168,000, and located on the line of the Shanghai-Nanking Railway, 165 miles from Shanghai, makes a limited requisition on the Shanghai ice company, but at an almost prohibitive price, cost, waste, and transportation considered. Wuhu, with a population of 137,000, 264 miles from Shanghai, is without ice of any sort; Ghanking and Kiukiang, with populations of 46,000 and 36,000, respectively, are without ice of any kind. The former is 370 and the latter 458 miles from Shanghai.

An ice factory, centrally located, with the prevailing inexpensive river transportation, would be a paying investment.

INDUSTRIAL AND AGRICULTURAL IMPLEMENTS.

The industrial and agricultural Chinese employ the same crude implements chiefly that were in vogue a century ago, but the demand for adaptable and labor-saving tools has increased and will continue to do so as the Empire develops under Western influence.

The smaller and less expensive trade implements, such as gimlets, bits, augers, small and large saws, hatchets, and other tools, used by carpenters and cabinetmakers, hoes, rakes, and other small farm accessories, would command a ready sale.

The advent of the sewing machine and the opportunity to purchase under the installment plan has been a great blessing to the Chinese, and every home able to meet the small monthly or weekly payments is supplied with one. The Chinese recognized in this a labor-saving device of inestimable value to them, and the introduction of any other domestic contrivance to lessen labor or increase an output would be equally welcome.

INCREASING BUTTER CONSUMPTION.

The demand for butter throughout the whole of this consular district is always great, and, while an approximate estimate of the consumption can not be given by reason of the total absence of anything statistical, the local merchants say it is enormous. Some of the produce houses in Shanghai import the Australian loose squares direct, under the cold-storage system, but the general trade is in the canned variety of Australian, Canadian, Russian, Danish, Swiss, and French production, the prices varying from 30 to 40 cents gold per 1-pound tin.

While the large grocery houses in Shanghai catalogue the named brand and emphasize their quality, they make no mention of American butter, canned or otherwise, although the United States has just as good facilities for exporting; and the American product is better than that of the countries enjoying this lucrative market. Prices are advancing in this as well as other articles of like nature.

MATURING CONDITIONS.

The determination of China to supply its own wants will for a time curtail the general importations, but China can not even supply the necessities of life consumed by the foreign element and by the advanced Chinese themselves. The grocery and produce markets are always receptive, and no other branch of business is so certain of great profits in China.

For the time being the demand for large things along the Yangtse Valley is nil, but the inevitable pressure from within and without the Kingdom will undoubtedly compel China to acknowledge her incapacity to cope with the commercial and industrial problems that have made other countries great and to openly appeal for assistance to the outside world to help open up what are said to be unlimited resources. When that time arrives those in the markets, whether with small or little things, having won the confidence of the local merchants, will reap the benefits of the expansion, be it great or small. That these conditions are certain to mature in the next few years is amply demonstrated in the peculiar activity of nations that must look abroad for the sale of their surplus products. On the spot is the motto of European countries, prepared at a moment's notice to supply a demand or exhibit their creations and demonstrate the merits of the same. When the Chinese want a thing they will not wait for the arrival of what they want if they can find it in stock anywhere.

If American exporters determine to enter the local markets they must not overlook the smaller articles of demand as an opening wedge. They must first cultivate a confidence in business circles, and when that is done the future is assured as long as fair dealing is maintained.

MANCHURIAN CONDITIONS.

FAIR TRADE IN AMERICAN MANUFACTURES IN NEWCHWANG.

Consul Thomas E. Heenan furnishes the following information concerning conditions in Manchuria and American trade in Newchwang during the six months ended June 30, 1908:

Newchwang is improving every year, improvements being made by the local authorities and by private enterprise. A large improvement was made during the present year in connection with wharf accommodations, and it is quite evident that the town will make a strong effort not only to hold its present trade and increase it, but also to meet the rivalry of the Southern Manchurian Railway in its competition therewith in favor of Dalny. This year there has been abundant water in the river Liao, and the smaller rivers in the north have had the advantage of easy communication with the Liao. This brought numerous craft with cargo to Newchwang, which had not been the case in many years. For the same period of time last year large shipments of beans, consigned to Newchwang, were held up the river, and could not be delivered owing to the scarcity of water, and these were eventually shipped to Dalny. This has caused a movement among the Chinese which will have the effect of further deepening the river and making it navigable at all times during the season for the craft which usually ply on its course.

AMERICAN PIECE GOODS.

The sale of American piece goods at this port has been very fair, the bulk of the sales being sheetings, the remainder drills and jeans. The import of American piece goods for the six months ended June 30, 1908, was greater than for the same period in 1907, largely because the congested stock in the hands of retailers has been cleared. The goods brought here, as a rule, through southern merchants from Shanghai are now taken over by the native merchants at Newchwang. The reason, according to the southern merchants, is the uncertainty of the rate of exchange between the Shanghai taels and Newchwang taels. The native merchants can borrow money and send down to Shanghai to buy goods to meet the market, while the southern merchants had the goods brought here before the money was remitted to Shanghai, so that when the goods were sold, and money collected, the profit was not enough, and at times loss was sustained thereby.

The price of American piece goods was raised from 10 to 25 per cent per piece since September, 1907. This was attributed to the rise in value of gold and the cheapness of silver, and also to the fact that the people at Shanghai had made no fresh contracts for American goods since January, 1907, and the congested stocks were nearly consumed.

Trade, however, is affected by the new issue from the Imperial Bank of China of immense quantities of silver dollars, subsidiary silver coins, and copper cash pieces, all of which are at a discount.

THE FLOUR TRADE—NEW WATERWORKS.

American flour for the six months shows a falling off compared with 1907, but an increase over the same period of 1906. The flour trade, however, may be said to be a fairly prosperous one, and is bound to grow. Small consignments of flour made at Harbin occa-

sionally reach this port, and the article is of good quality. It is a matter of considerable doubt, however, whether Harbin flour will ever reach Newchwang in sufficiently large quantities to compete successfully either in price or quality with the American article. The districts to the north and south of Harbin are able to consume all the flour which the Harbin mills are capable of turning out.

American flour is sold here for retail at 95 cents to $1 per sack. The annual consumption of flour at Newchwang, both imported and native, is said to be 1,200,000 sacks.

There was no American kerosene oil imported during the six months on account, it is thought, of the very large imports during the same months of 1906, viz, 921,310 gallons. The present price is given at $1.30 per case of two cans.

American machinery for the new waterworks was brought here in May. Its value is given at $25,000. Water pipe is being laid all through Newchwang, and it is stated that the plant will be in operation during 1909. The entire waterworks enterprise is a Japanese concern.

AGRICULTURAL MACHINES AND IMPLEMENTS.

The crops of the present year in Manchuria are said to be excellent. Early in July I passed over the country between Newchwang and Mukden and was struck with their prosperous appearance. Later advices have confirmed this view, and it is stated that the harvest of 1908 will be the largest in the history of Manchuria.

Wheat, to the extent of about 4,000,000 acres, is said to be under cultivation this year, and the yield is expected to be a large one. In this connection it may be mentioned that a few harvesters and binders were sold this year in southern Manchuria, and the field for all kinds of agricultural machines and implements is extremely good.

It must, however, be carefully demonstrated that the machines can and will work in a satisfactory manner. This will require patience and time, but it is worth the effort, as success means large sales in this part of the world.

The manner in which grain is sown in Manchuria is against the sale of American machines at the present time, but a little patience and a slight demonstration as to how much better results can be obtained by a machine, with some change in the manner of sowing grain, will accomplish all that is necessary. Wheat is sown in a direct line, and, from time to time, the earth is raked up from either side, so that at the end of the season, or at harvest time, there is a marked depression on either side of the grain. It is this depression which would interfere with the working of the harvesting machine.

EXTENT OF EXPORTS.

The principal exports from Newchwang during the six months ended June 30, 1908, were beans, bean cake, and bean oil, of which bean cake and bean oil show an increase, while beans are slightly less. The figures given, as a whole, show an increase in the total export. It has been proposed to tax all bean cake brought to Newchwang for shipment abroad, as the local millers declare that the price of labor and other expenses in the interior is much cheaper than at Newchwang. It is feared that this project, if it succeed, will inflict serious injury to the real interests of Newchwang. All the bean cake exported goes to Japan, and this is one of the principal articles of export from Man-

churia. During the present year the price paid has been higher than in other years, due probably to the low price of silver and silver coins. The beans were brought to Newchwang by carts during the winter months, and there was a constant stream of mules and carts during this period. It is said that as many as 1,000 carts came in daily loaded with beans and other articles for export when the river opened. It is seldom that a poor or a crippled mule or horse is seen among those which enter and pass out of the town from one year's end to the other. They are all in splendid condition, and look as if they were well cared for.

Among the exports, medicine is entered for the six months to the value of $72,094.

The exports of bullion and coins during the six months were as follows: Gold bars and dust, $47,874; silver bars and sycee, $170,836; silver coins, $1,777,836; copper coins, $16,328; total, $2,012,921, an increase over the first six months of 1907 of $370,821, which was due to the rate of exchange for remittance on the Newchwang transfer taels. The greater part of these exports are for Shanghai, the merchants finding it more profitable to ship by steamer than remit through the banks, to pay for their goods. The exports in 1908 would have been much greater were it not for the action taken in time by the local authorities in prohibiting the exports of silver sycee and coins.

IMPORT STATISTICS.

The following statement shows the quantities of foreign products and manufactures imported at Newchwang during the six months ended June 30, 1906, 1907, and 1908:

Articles.	1906.	1907.	1908.
COTTON PIECE GOODS.			
Shirtings, plain:	*Pieces.*	*Pieces.*	*Pieces.*
American	29,865	600	24,405
English	64,295	9,647	30,790
Japanese	500	.....	1,800
Sheetings, plain:			
American	115,982	73,350	242,842
All other	3,790	1,830	97,320
Drills:			
American	19,980	5,570	46,660
English	90	180	450
Jeans.			
American	47,220	12,492	35,815
English	2,920	10,889	42,845
Shirtings, white	94,539	40,201	70,901
Chintzes and plain cotton prints	37,554	9,187	2,140
Italians, plain and figured	130,196	36,515	37,074
Lastings	29,494	3,713	2,493
Total piece goods	576,425	204,174	635,535
OTHER IMPORTS.			
Flour:			
American ... tons	6,122	15,208	8,362
Native ... do	8,268	262	1,473
Kerosene.			
American ... gallons	15,000	921,310	.....
Sumatran ... do	93,700	234,250	200,000
Timber.			
Planks, soft wood ... square feet	96,934	133,840	2,110,454
Beams, logs ... do	.....	2,995	130,608
Laths ... pieces	.....	150,000	948,500

Of the lath imports in the statement for 1908, 858,900 pieces were American. The other foreign goods imported were cotton handkerchiefs, towels, and yarn; aniline dyes, matches, and needles.

TRADE OF CANTON.

OUTLOOK FOR COMMERCIAL DEVELOPMENT SEEMS PROMISING.

Vice-Consul-General Willard B. Hull transmits an article from a Chinese newspaper, reviewing the trade of Canton for 1907, from which the following extracts are taken:

The trade of the year has maintained the upward tendency which has been so marked a feature of the present decade. But Canton, in spite of its respectable age as a place of trade, and, later on, as a treaty port, is still really in a state of development, the potentialities of which it would be difficult to overestimate. It is therefore fair to claim that a trade valued for the year at haikwan taels 104,468,566 ($83,362,915), and done practically on the lines of forty years ago, may be expected to increase enormously when the time—now within measurable distance—arrives for the iron horse to drag long trains of merchandise to and fro, not only within the provincial border, but eventually to tap all that lies behind even to the gates of the capital itself. Meanwhile, while waiting and preparing for the enlarged activities of the future, Canton has been able not only to consume more foreign imports but also to produce more exports for abroad than in 1906. That local merchants have not had to congratulate themselves on profit commensurate with the large stocks available is due to extraneous causes—chiefly the financial crisis in America—in the markets of the world. There has been an all-round falling off in the importation of metals, noticeably brass sheets and plates, copper ingots and slabs, spelter, and bamboo steel. Iron pipes and tubes to the value of 329,000 haikwan taels ($262,542) were imported, almost the whole of it being for the use of the Canton waterworks. Dyes and colors showed an increase, as well as looking glasses and mirrors. Coal, which was formerly mostly brought up in junks from Hongkong, is now imported direct from Japan, 148,000 tons being imported, as against 82,000 tons in the preceding year. Machinery and parts of machinery rose from 57,000 taels ($45,486) to 206,000 taels ($164,388), due to the building of a smokeless powder factory by the Chinese Government as well as a cement factory; machinery for the waterworks also helped to swell the figures. The value of railway material imported increased from 13,000 taels ($10,374) to 392,000 taels ($312,816), the greater part being for the use of the Canton-Hankow Railway's trunk line.

SIAM.

IMPORT AND EXPORT TRADE.

The customs statistics of the foreign trade of Bangkok for the fiscal year from April 1, 1907, to March 31, 1908, show the value of the total imports and exports of merchandise from and to foreign ports for the past three years in ticals (tical=about 31 cents) as follows:

	1905-6.	1906-7.	1907-8.
Imports	68,875,546	77,061,658	78,688,521
Exports	106,964,443	105,859,604	99,734,612
	175,839,989	182,921,262	178,423,133

Excluding treasure, opium, gold leaf, and reexports, the total trade for 1905-6 amounted to 164,974,255 ticals, for 1906-7 to 169,732,572 ticals, and for 1907-8 to 163,265,652 ticals. The average total trade for the past five years is 151,471,908 ticals, so that last year's figures are largely in excess of that. The exchange value of the tical has appreciated slightly since last year, and at the present rate the total trade of 178,423,133 ticals works out at $65,138,497. There is a decrease in the exports of 6,124,992 ticals as compared with 1906-7, a decrease entirely due to the falling off in the export of rice, and an increase in the imports over the same period of 1,626,863 ticals, caused principally by the large increase of treasure imported.

BRITISH INDIA.

FOREIGN TRADE.

STATISTICS OF IMPORT AND EXPORT FOR PAST TWO YEARS.

Consul Nathaniel B. Stewart, of Madras, submits the following report on the trade of India for the year ending March 31, 1908, compiled from official statistics just published:

The total foreign trade of India for the year ending March 31, exclusive of imports and exports of gold and silver, was $1,023,479,870. The total for the previous year was $949,578,785, a gain of 7.8 per cent. The imports for 1907–8 were $432,854,460, a gain of $71,829,185; and exports $590,625,510, a gain of $2,072,000.

From April to October, 1907, there was great trade activity throughout the whole of India. Both imports and exports increased remarkably as compared with the first six months of the preceding year. The great increase in imports should be attributed to the good harvests of 1906–7, the generally prosperous condition of the country resulting from increasing demands for Indian goods throughout the world, and also to some overtrading which was indulged in as a result of prosperous times. The increase in exports during the same period should be attributed to the two first causes mentioned for the increase in imports and to the fact that a surplus from the harvests of 1906–7 brought over was being disposed of.

Owing to insufficient rainfall throughout the greater part of the Empire during the season of 1907–8, each of the staple crops fell below the average. Famine conditions resulted in various provinces. This created a marked depression which was being widely felt when the financial crisis in the United States, which resulted in greatly reducing the demand for Indian products there, and the demand upon the world's supply of gold to meet the crisis tended to very greatly extend the prevailing depression. As a consequence of all this, a very great decrease in both imports and exports, as compared with the first half of the year, took place and this decline was still quite marked at the end of the year.

AMERICAN SHARE—ITEMS OF TRAFFIC.

The share of the United States in the import trade of India rose from 2.3 per cent, equal to $8,300,000, in 1906–7, to 2.5 per cent, equal to $10,800,000, in 1907–8. On the other hand its share in the export trade fell from 9 per cent, equal to $52,500,000, in the former year to 7.8 per cent, equal to $45,100,000, in the latter.

The principal articles of Indian import from the United States during 1907–8 were mineral oils, iron and steel, both raw and manufactured, tobacco, canned goods, toilet articles, etc. The principal articles of export to the United States during the same period were jute and the manufactures thereof, hides and skins, lac, tea, indigo, coffee, wool, and some cotton goods to the Philippine Islands.

The bulk of the foreign trade of India is confined to six principal cities and their proportionate shares in value for the year ending March 31, 1908, are shown in the following statement: Calcutta, $401,620,000; Bombay, $277,960,000; Karachi, $84,070,000; Rangoon, $70,810,000; Madras, $47,735,000; Chittagong, $12,270,000; all others, $129,014,870.

Following is a list of the articles of import into India during 1906–7 and 1907–8, and their values:

Articles.	1906-7.	1907-8	Articles.	1906-7.	1907-8.
Cotton manufactures:			Carriages and carts	$3,082,000	$3,933,000
Gray piece goods	$62,358,000	$64,729,500	Spirits	3,289,500	3,681,000
White piece goods	24,598,500	39,417,000	Paper and pasteboard	2,670,000	3,308,000
Colored piece goods	31,858,000	35,999,500	Silk, raw	1,893,000	3,271,500
Yarn	10,744,000	12,310,500	Drugs and medicines	2,602,000	3,030,500
Other sorts	6,833,000	7,685,000	Aniline and alizarine dyes	2,497,500	2,821,500
Total	136,391,500	160,141,500	Tobacco	2,311,000	2,812,000
			Timber	2,642,500	2,675,000
Iron and steel	25,227,000	32,505,000	Salt	2,225,500	2,673,500
Sugar	29,127,000	30,756,500	Chemicals	2,292,000	2,642,500
Railway materials	13,861,000	24,002,500	Matches	2,104,000	2,459,000
Machinery and mill-work	19,300,000	21,951,000	Cotton	1,529,500	2,365,000
Hardware and cutlery	8,845,000	10,551,500	Precious stones and pearls	3,112,500	2,319,000
Mineral oil	8,089,500	10,515,000	Paints and colors, and painters' materials	1,891,500	2,079,000
Woolen manufactures	6,840,500	9,225,500	Beer	2,009,000	2,037,000
Provisions	8,077,500	9,133,000	Coal	1,620,000	1,978,000
Apparel	7,041,000	8,610,000	Stationery (excluding paper)	1,346,500	1,479,000
Silk manufactures	6,083,000	7,116,000	Horses	1,496,500	1,277,500
Copper	4,643,500	6,878,000	All others	34,053,275	40,060,460
Spices	4,797,500	5,205,500			
Glass and glassware	4,038,000	4,817,000			
Instruments and apparatus	3,995,500	4,544,000	Grand total	361,025,275	432,854,460

A list of articles in the export trade of India during 1906–7 and 1907–8 and their value follows:

Articles.	1906-7.	1907-8.	Articles.	1906-7.	1907-8.
Cotton	$73,261,535	$85,675,065	Pulse, millets, and cereals	$4,285,450	$6,746,875
Rice	61,765,030	6,797,015	Coffee	3,321,595	3,715,065
Jute manufactures	52,387,435	60,992,150	Oils	2,328,655	2,860,580
Jute	89,462,270	59,909,340	Wood and timber	2,772,495	2,756,210
Seeds	43,405,765	56,050,545	Provisions	2,170,370	2,515,195
Hides and skins	51,150,835	36,505,115	Silk	2,288,340	2,126,050
Cotton yarn and cloth	40,560,800	35,888,670	Indigo	2,334,925	2,124,245
Tea	32,859,215	34,334,495	Spices	2,006,795	1,756,580
Wheat and wheat flour	26,133,920	30,485,200	All other goods	45,277,305	48,857,150
Opium	31,026,410	28,908,260			
Lace	11,665,915	13,610,195			
Wool	8,088,450	7,011,510	Total	588,553,510	590,625,510

THE LACCADIVE ISLANDS.

PRODUCTS AND INDUSTRIES, IMPORTS AND EXPORTS.

Consul-General William H. Michael, of Calcutta, furnishes the following report concerning the Laccadive Islands, which lie off the Madras coast and are considered a prosperous group:

The islands imported from India rice, cotton goods, wheat flour, and other commodities valued at $136,500 during the last year, exclusive of specie, and exported copra, cocoanut oil, vanilla, etc., to India and Aden amounting to $56,085. The islands have soap factories, three factories for desiccation of cocoanuts, a rum distillery, and laboratories for distillation of essential oils; the manufacture of cocoanut oil and the drying of copra is done on nearly every estate. On the islands are lagoons well adapted for shell and sponge propagation.

The cinnamon tree grows wild and plentifully, from which cinnamon oil is manufactured and bark gathered for export. Each cinnamon tree yields 20 pounds of bark, which yields 0.40 per cent

in oil. The amount of cinnamon bark in sight for export exceeds 50,000 tons. The cocoanut and vanilla harvests are considered the best resources of the colony, yet the planters are cultivating with success the rubber tree, coffee, cocoa, and sugar. On the near outlying islands guano beds exist and mangrove bark is plentiful. The governor of the islands makes a most encouraging report of the present and prospective prosperity of the colony.

STRAITS SETTLEMENTS.

EXPORT TRADE.

QUANTITIES OF EAST INDIAN PRODUCTS SHIPPED DURING JULY.

Vice-Consul-General George E. Chamberlin, of Singapore, furnishes statistics compiled from the Singapore and Penang market reports showing the quantity of East India products exported from the Straits Settlements in July, 1908, concerning which he says:

Of the shipments of black and white pepper, the bulk went to the following ports: In the United States—New York and San Francisco; England—London and Liverpool; France—Marseille, Havre, and Dunkirk; Germany—Hamburg, Bremen, and Stettin; Russia—St. Petersburg; Austria—Trieste and Fiume; Belgium and the Netherlands—Antwerp, Amsterdam, and Rotterdam; Italy—Genoa.

Many of the products shipped to England, France, Belgium, and the Netherlands are optional shipments, therefore it is difficult to give the ultimate destination in many cases. This is especially true in regard to tin forwarded to England. The statistics follow:

Article.	United States.	England.	All countries.	Article.	United States.	England.	All countries.
	Pounds.	*Pounds.*	*Pounds.*		*Pounds.*	*Pounds.*	*Pounds.*
Coffee	.....	.....	136,133	Poonac	.....	.....	336,000
Copra	.....	2,242,800	13,991,198	Rubber.			
Gambier	2,722,800	1,167,200	4,676,532	Borneo	59,333	12,200	126,266
Gambier cube	16,400	134,933	297,199	India	.....	33,200	33,200
Gum benjamin	.....	5,733	15,199	Para	.....	183,866	183,866
Gum copal	428,933	586,266	1,451,330	Rattans	76,533	139,933	1,285,998
Gum dammar	.....	5,600	76,733	Sago:			
Gutta percha	68,800	156,533	330,087	Flour	643,200	3,852,666	6,542,932
Guttajelatong	355,466	40,933	446,665	Pearl	.....	280,266	280,266
Hides	9,733	175,466	275,998	Tapioca:			
Illipe nuts	.....	1,034,933	1,034,933	Flake	232,800	908,266	2,074,532
Mace	4,400	.....	5,333	Flour	112,133	425,333	737,599
Nutmegs	126,666	18,000	148,932	Pearl	749,200	919,200	2,251,099
Pepper:				Tin	1,176,000	5,334,800	8,161,465
Black	1,001,866	391,866	3,404,264	Pineapples, cases	13,172	54,114	72,006
White	52,933	172,533	684,931				

ASIATIC TURKEY.

ISLAND OF SAMOS.

COMMERCE, SHIPPING, INDUSTRIES, AND NATIVE PRODUCTS.

Consul-General Ernest L. Harris, of Smyrna, as a result of a visit thereto, furnishes the following information concerning the island of Samos, which is only about 43 miles southwest from that Turkish city, and is separated from the mainland at one point by only a narrow channel, not more than a mile wide:

According to the last census Samos has a population of 59,000 inhabitants, entirely Greek in language, religion, and nationality. The

capital of the island is Vathy, with a population of 15,000. The principal towns are Carlovassi, Tigani, and Chora. There are about 30 villages, which vary in size from 50 to 2,000 inhabitants. These towns are situated on the coast and have artificial harbors which contain from 1 to 25 fathoms of water.

Samos in reality is a principality, the vassal of Turkey, and pays to the suzerain state a nominal annual tribute, which the Sultan relinquishes to the people of the island for the purpose of building and repairing roads, of which there is a great need. The government consists of a Prince, who is usually an Ottoman subject, but Greek in religion. He is assisted by deputies, who are elected by the Samian people.

At Vathy, Greece and Spain have consulates; Germany, Italy, England, and Belgium vice-consulates, and France a consular agency.

SHIPPING STATISTICS.

The shipping movements at the four ports of the island during the first six months of 1907 were as follows:

Ports.	Steam.		Sail.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Vathy	288	132,974	420	3,741	708	136,715
Carlovassi	201	29,305	271	3,260	472	32,565
Tigani	89	7,542	442	4,390	531	11,932
Marathocampo	.....	.....	199	1,422	199	1,422
Total	578	169,821	1,333	12,813	1,910	182,634

The steam tonnage was covered by the following flags, in their respective order: Austrian, Turkish, French, Greek, Dutch, Samian, German, etc. The American flag covered two sailing vessels, which, on account of their small tonnage, must have been pleasure yachts.

The imports into Samos during the first six months of 1907 amounted to $497,986. The imports wherein the United States should be interested were partly as follows:

Articles.	Value.	Articles.	Value.	Articles.	Value.
Flour	$100,000	Coffee	$5,896	Porcelain	$1,576
Corn and wheat	59,136	Tin	12,840	Raisins	1,796
Leather (tanned skins)	37,216	Tin cigarette boxes	2,440	Cordage	1,008
Paper:		Machines	1,648	Ironwork	4,472
Manufactures	1,300	Sewing machines (American)	992	Ironmongery	5,264
Cigarette	12,688	Paints and colors	1,264	Cheese	2,732
Packing	9,332	Wood, for construction	5,620	Salted fish	6,028
Barrel staves	1,360	Alcohol	22,404	Glassware	3,316
Drapery	31,944	Fruits and vegetables	5,300	Cotton	7,712
Sugar	14,528	Hats	1,144	All other articles	89,542
Tobacco	25,952	Petroleum	15,820	Total	497,986
Tombac tobacco	5,716				

The value of the exports during the first six months of 1907 was about $220,000, of which Muscat wines composed $103,140 and cigarettes about $50,000. The other chief exports were tobacco, styrax, skins, oil, and liquors.

INDUSTRIES OF THE ISLAND.

Wine constitutes the chief source of wealth of Samos. There are something like 7,420 acres of vintage, and the renowned muscatel grape is a specialty of the island. At present the total output is 1,580,000 gallons, but with the substitution vines free from phyloxera

the natives hope to increase the output to 3,400,000 gallons, the quantity which was produced as far back as 1894. American slips are used, for the reason that they most successfully oppose the phyloxera. Two-thirds of the muscatel wine produced is exported to France and Germany for mixing purposes.

The culture of tobacco is a great source of wealth to the island. Not only does it furnish a means of living to a goodly number of peasants, but it also provides labor for many who would otherwise be compelled to leave the island to seek employment.

The tobacco of Samos has a medium-sized leaf, is highly aromatic, and is rarely smoked pure, for the reason that it is one of the chief mixtures which has rendered Turkish tobacco so famous. The principal exports are to Germany, Russia, and the United States, although the cigarettes find their way to every part of the world. While standing on the quay of Vathy I saw several hundred cases being shipped to China, Korea, and Japan. The best quality can always be recognized by the color of the leaf. Upon the color depends the price, which varies between 20 and 30 cents per oke (2.82 pounds). It is said that an American company bought nearly the whole of one season's output of Samos tobacco a few years ago. The tobacco harvest this year will amount to about 846,000 pounds.

The carob tree grows wild in the island of Samos, and the fruit serves as a food for cattle. It is also used in mixing with chewing tobacco. The annual production amounts to 3,384,000 pounds, nine-tenths of which finds its way to Italy and the rest to Germany.

The annual production of olive oil amounts to 423,000 pounds, of which very little is exported. It is nearly all sold in the island for alimentation and for making household soap.

The exports of cigarettes from Samos annually amount to 50,000,000. England, Germany, India, and the Transvaal are large buyers. More than 300 workmen are employed in the different factories, where they are paid at the average rate of 35 cents for every thousand cigarettes rolled. Some machines were recently introduced, which greatly facilitate the work, inasmuch as 100,000 cigarettes may now be produced daily. Naturally many workmen will be permanently thrown out of employment, and many are already planning to leave the island.

COMMERCE OF YEMEN.

GREATLY AFFECTED BY REDUCED ORDERS FROM UNITED STATES.

A dispatch has been received at the foreign office in London from the British embassy at Constantinople relative to commercial conditions in the Turkish-Arabian vilayet or province of Yemen, of which Sana is the chief interior city and Hodeidah is the Red Sea port. The article says:

It appears that last year's coffee crop was very good, but the demand for Mocha coffee in Europe and the United States was not so big as usual, owing to the financial crisis in America, and the prices offered were below the average. The trade in hides and skins suffered considerably owing to the same cause, the United States being

the principal buyer of these commodities. The local supply, moreover, was not so plentiful as usual. The dhurra (millet) crop was plentiful, and there was a considerable quantity for export. The piece-goods trade has been more or less paralyzed during the past three months, owing to the trouble in Zebeed and the insecurity of the Hodeidah-Beit-El-Fakih and Hodeidah-Zebeed routes. The bulk of American and Manchester piece goods, consisting principally of unbleached gray sheetings, is sent from Hodeidah to Zebeed to be dyed, and thence transported and sold in various markets of Yemen. The depression of trade in the interior through internal feuds is gradually causing a transference of the dyeing industry from Zebeed to Hodeidah, where several firms are now importing aniline (artificial) dyes from Germany on behalf of local Arab dyers.

AUSTRALIA.

FOREIGN TRADE.

IMPORTS CONTINUE NORMAL, WHILE EXPORTS DECLINE.

The following summary of the foreign trade of the Australian Commonwealth is from a Sydney correspondent of the London Times:

That Australia, like all the rest of the world, should share in the general setback in trade was only to be expected. If people will not pay the old prices for wool, nor buy so much of it, naturally our exports will suffer; and it is just the same with metals, hides, tallow, etc. But, apart from that, last season was distinctly one of diminished production in Australia. We secured, it now transpires, 44,525,000 bushels of wheat, as compared with 66,101,000 in the previous year, and practically all the crops were affected in the same way, with the exception of sugar. The foreign trade returns for the first half of the year are now available, and they show an aggregate shrinkage in exports of nearly $30,000,000; but it may be safely anticipated that during the second half of the year the results will be distinctly better.

The comparative returns for the six months of the two years may be summarized as under:

Articles.	Imports.		Articles.	Exports.	
	1907.	1908.		1907.	1908.
Soft goods	$28,345,912	$28,277,873	Wool	$54,416,910	$39,650,294
Other merchandise	83,399,409	84,512,928	Other merchandise	83,204,044	60,434,732
Gold and specie	4,870,393	3,249,191	Gold and specie	27,818,816	36,827,501
Total	116,615,714	116,039,992	Total	165,439,770	136,912,527

TRADE HANDICAP.

AMERICAN FIRMS SHUT OUT THROUGH EXTRA BRITISH PREFERENTIAL.

Consular Agent Asbury Caldwell, writing from Brisbane, gives the following account of an extra allowance to manufacturers of Great Britain in bids for government supplies in Australia:

A local importing firm representing American manufacturers recently formulated tenders for certain supplies to the government telegraph department. In making their tenders, allowance had to be made for the fact that the duty to be paid by the importers of American goods was 5 per cent higher than that paid by the British manu-

facturer, against whom they were competing. In spite of that handicap the American price was lower than the British tender. Naturally the importer expected to get the contract, but the tender was withheld after an interview with the departmental chief.

The deputy postmaster-general, being the chief government official within the State in his department, states that it is departmental usage within the post-office department, in the matter of all supplies for post, telegraph, and telephone services, to grant an additional preference to the British manufacturer of 10 per cent, in addition to the 5 per cent preference provided for by law. This means a handicap of a full 15 per cent in that department. The result is to effectually close that portion of the market to American trade.

SOUTH AFRICA.

TRADE CONDITIONS.

DECREASE IN IMPORTS AND A LARGER DECREASE IN EXPORTS.

The following report covering the foreign trade conducted through the British South African Customs Union (Cape Colony, Natal, Orange River Colony, Transvaal, Southern Rhodesia, Basoutoland, Bechuanaland Protectorate, and Swaziland) for the first six months of 1907 and 1908, is furnished by Vice-Consul-General George Loomis Foster, of Cape Town:

The following statement shows the value of the imports from the British Empire and foreign countries for the first six months of 1907 and 1908:

Imported from—	1907.	1908.
British Empire	$45,679,519	$42,300,747
Foreign countries	18,592,935	18,423,966
Total	64,272,454	60,724,713

The percentages of the principal countries in the imports of 1907 and 1908 were as follows: United Kingdom, 55.6 and 54.1; United States, 7.7 and 9; Germany, 7.4 and 8.3; Australia, 8.4 and 8.2; India, 3.2 and 3.4; Argentina, 2.1 and 1.4.

The customs returns for the half year do not show the countries of origin of the different articles of importation. The value of the total imports from the United States was $5,501,374, as compared with $4,959,504 for the same period of 1907. The imports from Germany amounted in value to $5,069,486, as compared with $4,770,961 in 1907. Those from the United Kingdom were $35,691,135 in 1907 and $32,871,037 in 1908. From the returns available it is impossible to show on what articles the importations from the United States have increased or decreased and to what extent.

IMPORTS BY PRINCIPAL ARTICLES.

The following table shows some of the principal articles on which there was a pronounced increase or decrease in imports for the first half of 1907 and 1908:

Articles.	1907.	1908.
Animals, living	$238,848	$160,293
Antifrictional greese	92,818	98,512
Apparel and slops	3,473,683	3,743,239
Arms and ammunition	554,221	573,044
Beads	39,389	44,407
Candles	435,464	341,151
Cement	296,890	201,395
Clocks and watches	64,354	93,484
Coal	217,318	120,110
Coke and patent fuel	76,984	96,239
Cotton manufactures	4,289,460	4,420,018
Drugs and chemicals	1,670,387	1,753,385
Electric cable and wire	215,756	376,446
Electrical fittings, including posts	180,070	231,772
Food and drinks:		
Breadstuffs—		
Wheat	2,308,492	3,039,796
Flour	1,632,404	1,817,258
Coffee	1,013,974	904,026
Confectionery	404,119	369,747
Dairy products—		
Butter	5,345,660	9,781,178
Cheese	306,672	318,245
Milk, condensed	941,439	765,465
Eggs	297,625	238,410
Farinaceous foods	172,866	132,875
Fruits—		
Dried	95,738	55,682
In glass and tins	70,817	39,423
Meats	2,734,987	1,487,898
Oil, salad	51,278	47,288
Pickles and sauces	89,169	66,349
Spirits	796,261	711,818
Sugar	1,392,836	1,317,901
Glucose	21,052	27,354
Golden sirup	152,078	163,645
Vegetables, preserved	77,791	51,229
Furniture:		
Bedsteads	89,324	81,635
Carpets, linoleum, and floor cloths	175,883	177,616
School furniture, etc.	152,471	96,672
Glassware	84,180	71,849
Bottles and jars	105,164	120,606
Hardware:		
Fencing materials (wire, etc.)	623,637	523,401
Hardware—Continued.		
Stoves	$128,879	$90,020
Tools	105,081	95,947
Wire rope	182,503	194,022
Implements:		
Agricultural	509,873	399,267
Kaffir hoes and picks	14,842	17,431
Instruments:		
Musical	222,272	207,731
Surgical	23,442	30,318
Iron and steel manufactures	1,885,870	1,499,364
Jewelry	323,495	326,715
Lamp ware	83,275	72,754
Leather, and manufactures:		
Leather	394,254	345,239
Boots and shoes	2,082,277	2,239,052
All other leather goods	233,992	221,314
Machinery:		
Agricultural	187,924	134,962
Electrical	435,312	511,167
Manufacturing	297,591	255,948
Mining	1,895,929	1,584,819
Printing and bookbinding	52,149	33,306
Sewing machines	100,984	95,066
Water-boring	410,898	246,955
Oils:		
Cotton-seed	43,983	72,175
Engine and machine	177,403	253,987
Linseed	53,064	69,016
Paraffin	383,762	631,506
Painters' goods:		
Varnish	44,334	39,696
Turpentine	31,705	34,908
Railway materials	378,774	258,503
Soap, toilet	71,732	86,424
Sporting goods	104,552	119,686
Tobacco:		
Manufactured	17,918	13,329
Unmanufactured	122,963	120,407
Tramway materials	173,958	125,054
Vehicles	761,558	619,734
Wax: Paraffin and stearin	481,131	420,446
Wood and timber	1,363,004	1,363,411
Woolen goods	1,705,703	1,755,303

REVIEW OF IMPORTS.

The increased import of butter is somewhat surprising, considering the good seasons and diminishing population. It is claimed, however, that government-aided creameries manufactured butter and actually sold at a loss in order to compete with the Australian product. This has been stopped by some of the creameries which became insolvent and the Government is keeping more careful watch on the action of others. Less butter has been made locally this year, and the Australian product has had a better chance.

The increase in importations of cotton manufactures is attributed to larger quantities of blankets, rugs, and sheeting having been bought. There appears to be an increasing demand for cotton blankets. In many instances they are taking the place of woolen blankets owing to their cheapness. They are also sold largely by auctioneers at public sales. The long continuance of the depression in trade has caused large numbers of small dry goods dealers to carry on auction sales, both in auction rooms and in public places, such as open squares, where semiweekly sales are held regularly. At these

sales the American-made cotton goods, such as underwear, blankets, and hosiery, come in for a good share of the sales. The large merchants have at times taken steps to stop the holding of such public sales of new goods, but up to the present have not been successful. The auctioneers seem to be getting an increasing share of the dry goods trade as well as some other lines.

TINNED MEATS, FOOTWEAR, MACHINERY, AND FLOUR.

The importations of meats of all kinds show a large decrease from the previous year, with the exception of tinned meats, in which there was an increase of $35,000. It is thought that there will be a steady demand for tinned meats in South Africa, as there is such a vast part of the country where to depend on fresh meat is to be disappointed, and there is also mining and prospecting carried on, where it is impracticable to obtain supplies of fresh meat. There has been no preserving of meat in tins in South Africa up to the present.

The value of boots and shoes imported during the first half of 1908 exceeded that of the same period of 1907 by $156,775. It was expected that the South African customs union tariff on boots and shoes would be raised at the late customs conference, and the increase in importations was doubtless due to merchants desiring to get in large stocks before the higher tariff could take effect. The tariff on this line was not raised, however.

All classes of machinery and implements, except electrical machinery, show a very considerable falling off. It is thought, however, that the remaining half year's imports will reverse the comparisons. The demand for electrical machinery and supplies has been increased by several municipalities putting in electrical lighting plants, and it is becoming common for small forage and feed dealers, as well as some of the largest farmers, to have their own dynamos and machines for cutting feed and forage. There has also been a demand for some lines of electrical machinery in German Southwest Africa in developing mining properties, among which is a diamond mine, recently discovered. This demand has been met by Cape Town importers.

The increase in wheat is doubtless due to South African importers and millers wishing to take advantage of a favorable market, and also to get in large stocks before the tariff would be raised by the recent customs conference. This is also applicable to the increased importations of flour. Several very large merchants have, during the first half of 1908, imported large stocks of flour who had not previously handled flour.

DECLINE IN EXPORTS.

The South African produce, including diamonds and gold, exported during the half year amounted in value to $107,176,706, as compared with $115,886,524 for the corresponding period of 1907, a decrease of $8,709,818. The decline in the value of exports is principally accounted for by the decline in exports of diamonds, from $22,881,358 in 1907 to $14,347,916 in 1908, a decrease of $8,533,442. The principal articles on which there was a pronounced increase in value of exports during the half year, as compared with corresponding months of 1907, were asbestos, coal, maize, oats, gold, and tin ore. Those showing a decided decrease in value were bark, buchu, copper ore, diamonds, mohair, ostrich feathers, hides and skins, and wool.

The quantities of mohair and feathers exported were more than in the first half of 1907, but prices received being lower the total values show a decrease.

The following table shows the value of some of the principal articles exported during the first half of 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Animals, living	$125,769	$87,168	Food and drink—Cont'd.		
Asbestos, raw	15,407	49,409	Oats	$6,963	$420,387
Bark	437,378	364,014	Flour	131	74,618
Buchu leaves	35,846	26,366	Fruit, fresh	89,280	148,442
Coal:			All other	170,700	246,200
Cargo	69,036	423,434	Gold, raw	70,247,757	74,352,402
Bunker	1,146,443	1,428,770	Hair, Angora	2,548,654	1,082,475
Copper and brass ore	640,416	374,599	Hides and skins	2,277,088	1,560,292
Regulus and smelted	1,352,595	867,653	Ivory	5,440	8,511
Cotton	2,078	676	Ores and minerals:		
Diamonds	22,881,358	14,347,916	Chrome	56,675	67,191
Feathers, ostrich	4,377,835	3,941,193	Mica	.....	6,788
Flowers, everlasting	31,780	21,363	Tin	224,082	269,219
Fodder and forage	10,068	66,252	Zinc	147,381	6,676
Food and drink:			Wool, raw	8,782,572	6,085,003
Maize	2,734	436,194			

ITALY.

FOREIGN TRADE.

REVIEW OF IMPORTS AND EXPORTS FOR CURRENT YEAR.

Consul-General James A. Smith, of Genoa, furnishes the following summary of the foreign trade of Italy for the first eight months of the present calendar year from official statistics:

The value of imports reached a total of $374,034,000, showing but the slight decrease over the previous year of $1,468,000. The value of the principal articles forming the total was as follows:

Articles.	Value.	Articles.	Value.
Cotton, raw	$55,661,000	Lumber	$16,231,300
Coal	33,601,300	Nitrate of sodium	2,489,700
Copper	6,176,000	Oils, mineral	3,782,800
Codfish	3,377,500	Phosphates	3,609,100
Copper, sulphate of	3,126,600	Precious stones	1,949,300
Colors and varnishes	3,088,000	Railroad vehicles and machinery	37,905,200
Coffee	2,856,400	Rubber, crude	2,045,800
Grain	21,133,500	Silk, raw	15,073,300
Greases	3,088,000	Silk cocoons	3,358,200
Hides	6,697,100	Seeds	4,188,100
Horses	4,632,000	Tobacco	2,566,900
Iron, scrap and pig	7,391,900	Wood pulp	2,393,200
Jute	2,277,400	Wool	13,374,900

The published statement shows an increase of imports in the following articles, with the amount of such advance as indicated: Coal $1,215,900, sulphate of copper $1,158,000, copper manufactures $907,100, codfish $926,400, cheese $617,600, greases $636,900, horses $2,566,900, instruments of precision $636,900, iron and steel manufactures $1,235,200, live stock (bovines) $945,700, lumber $2,142,300, machinery $3,551,200, phosphates $1,215,900, raw silk $1,100,000, wool $675,500.

Imports of the following articles declined to the extent shown: Automobi[illegible] 17,600, ra[illegible] cotton $4,689,900, grain $12,429,200, hides $965,000, [illegible] ir[illegible] [illegible],100, minerals $772,000, precious stones

$1,891,400, railroad vehicles $1,891,400, silk manufactures $1,389,600, silk cocoons $2,045,800, sugar $772,000.

The exports were valued at $227,354,000, a decline of $12,467,800 from the amount for the corresponding period of the previous year. A list of the principal articles making up this total is not given, but an advance is shown in the following: Automobiles $1,022,900, eggs $1,640,500, hemp $1,273,800, hides $1,196,600, rubber tires $579,000, silk manufactures $598,300, sulphur $714,100, vegetables $540,400, wine $1,293,100.

A decline of exports was shown in the following: Cotton tissues $3,049,400, cotton yarn $694,800, cheese $694,800, fruits and preserved vegetables $1,254,500, live stock $1,196,600, marble $598,300, meats $810,600, raw silk $4,265,300, dyed silk $2,084,400, silk waste $896,400, straw braids $1,042,200.

ROUMANIA.

GENERAL EXPORTS.

EGYPT MAKING LARGE PURCHASES OF BALKAN GOODS.

Consul-General Norman Hutchinson, of Bucharest, makes the following brief report concerning Roumanian exports to Egypt:

During the first five months of 1908 the value of the exports to Egypt amounted to $1,171,770, which represents an increase over the value of the exports for the corresponding period last year of $785,920, or 203 per cent increase.

In May, this year, Roumania exported to Egypt wheat flour valued at $8,310; wood for building, $185,530, and cattle with a value of $14,308. The first exportation of beef cattle to Egypt from Roumania was made in January of this year.

The value of the flour exports has suffered a decline. In 1907 the value of the flour export to Egypt amounted to $360,000, whereas in the first five months of this year the value of the export amounts to only $80,000.

The customs receipts of Roumania for month of August amounted to $914,800, which is an increase of $82,000 over the amount in August last year. From April 1 to August 31, 1908, the receipts amounted to $4,400,000, representing an increase for the same period over last year of $179,800, or $1,270,000 more than was reckoned on in the budget. The commercial situation of the country can be regarded as being in excellent condition.

RUSSIA.

RESULTS OF THE ANNUAL FAIR AT NIZNI NOVGOROD.

Consul James W. Ragsdale, of St. Petersburg, reports that the results of the annual fair at Nizni Novgorod can not be called brilliant, good business having been done only in certain lines of goods. For instance, a very good trade in the plain cloth manufactured in the Volga region was noted. Business in the main products, such as printed calico from the Moscow factories, was dull as compared with last year, owing to h y stocks and a falling off in the demands. An excellent business s done in roof iron, which is controlled by a

large Ural syndicate, the Krovlia. The general state of the market was solid. A notable feature was the absence of Persian buyers, owing to conditions in that country. Persian manufactures have been sold mostly in Astrakhan. No business was done in Central-Asian cotton, owing to the cheapness of the American product. Most of the operations were on a credit basis, cash being scarce.

SERVIA.

STATISTICS OF SALES OF PRODUCTS TO OTHER COUNTRIES.

Consul Robert S. S. Bergh sends from Belgrade the following statistics showing the exports from Servia for the first six months of 1908:

Articles.	Value.	Articles.	Value.
Agricultural products:		Animals and products—Continued.	
Bran	$49,811	Pork	$75,781
Cereals	1,173,979	Poultry	3,178
Flour	60,569	Skins	233,165
Hemp	89,665	Other animals	76,814
Prunes	149,024	Meat (fresh)	439,906
Prunes, crushed	56,401	Other products:	
Other fruits	56,799	Minerals	93,522
Animal and products:		Briquettes	19,193
Bacon	105,888	Coal	20,468
Butter	28,196	Copper	231,892
Cheese	18,260	Cordage	105,008
Cocoons	96,461	Wood (for construction and fuel)	351,815
Eggs	156,606	All other	215,500
Lard	75,781		
Oxen	251,636	Total	4,234,318

UNITED KINGDOM.

OUTLOOK FOR IMPROVED BIRMINGHAM TRADE SLIGHTLY IMPROVED.

Consul Albert Halstead furnishes the following statistics covering the exports from the Birmingham district to the United States for the first nine months of 1908:

The exports from the Birmingham district to the United States for the first nine months of 1908 were valued at $1,895,873, a decrease of $493,131, as compared with the same period in 1907. For the quarter ending September 30, the total exports were valued at $699,-170, which was $156,118 less than for the similar quarter in 1907. The loss for this quarter from the whole district was less by about $12,400 than the average loss of the first two quarters of the year, which shows an improved demand for its products in the United States. This improvement was not manifest in the exports from the consular agencies of Redditch, Kidderminster, and Wolverhampton, but was shown in the exports declared at Birmingham alone, which were only $24,292 less for the quarter ending September 30, 1908, than for the similar period in 1907.

Opinions among exporters differ considerably as to the prospects for the balance of the year. All complain of comparatively inactive trade. A few anticipate a continuing slackness in orders from the United States, but others seems to anticipate a decided improvement in this quarter.

SPAIN.

COMPARATIVE RECEIPTS AT THE SEVERAL CUSTOM-HOUSES.

Consul-General Frank D. Hill, of Barcelona, furnishes the following statistics covering the receipts at Spanish custom-houses, by provinces:

The following table shows the receipts at the various custom-houses of Spain, by provinces, for a series of years. The large figures ascribed to the Basque province of Guipuzcoa is due to its situation on a great route between the capitals of France and Spain, those of Santander to the port of Santander, while the port of Bilbao accounts for the figures attributed to Biscay. During the six years the receipts at Barcelona have been nearly one-fourth the receipts at all the custom-houses in Spain, which corresponds to the generally accepted idea that about one-fourth of the entire foreign trade of Spain passes through this port.

Provinces.	Average for five years, 1902-1906.	1907.	Provinces.	Average for five years, 1902-1906.	1907
Barcelona	$7,355,047	$7,763,321	Oviedo	$730,715	$661,049
Guipuzcoa	2,928,128	3,026,677	Pontevedra	454,772	538,606
Bizcay	2,769,187	2,974,951	Cadiz	529,250	510,730
Gerona	2,104,023	2,207,272	Corunna	394,743	412,437
Valencia	1,547,832	1,938,210	Almeria	305,083	328,282
Santander	1,803,344	1,846,477	Tarragona	589,015	307,442
Seville	1,296,468	1,415,898	Caceres	224,141	227,846
Huelva	1,081,625	1,260,904	All other	409,609	552,563
Malaga	1,126,001	882,538			
Murcia	725,098	753,130	Total	27,159,374	28,313,089
Alicanta	785,293	704,756			

The receipts for 1906 alone amounted to $32,040,936, or $3,882,847 in excess of the receipts for 1907.

ARGENTINA.

REVIEW OF TRADE.

SMALL INCREASE IN IMPORTS AND LARGE INCREASE IN EXPORTS.

The following statistics from official sources covering the foreign trade of Argentina for the first six months of 1908 are furnished by Consul-General Alban G. Snyder, of Buenos Aires:

According to official returns, the foreign commerce of Argentina during the first six months of 1908 was as follows, in gold values: Imports, $131,273,361; exports, $223,076,267; an increase of $711,676 in imports and of $37,641,814 in exports as compared with the first six months of 1907. The imports subject to duty amounted to $90,856,696 and those duty free to $40,416,665, an increase in the dutiable imports of over $9,000,000, but a decrease in the free imports of over $8,000,000 as compared with the first six months of 1907, the decrease in the free goods thus causing the smallness of the increase in the total imports.

The imports of gold amounted to $18,879,819, a decrease as compared with 1907 of $4,546,950. Only $33,341 worth of gold was ex-

ported. The duties collected on imports amounted to $30,697,999, an increase on those collected in 1907 of $2,517,657.

IMPORTS AND EXPORTS BY COUNTRIES.

The following statement shows the imports and exports from and to the several countries during the first six months of 1908 and the increase and decrease as compared with the first six months of 1907:

Country.	Imports.		Exports.	
	1908.	Increase (+) or decrease (−) as compared with 1907.	1908.	Increase (+) or decrease (−) as compared with 1907.
United States	$16,252,512	− $769,627	$4,570,320	−$1,982,965
United Kingdom	45,193,816	− 979,426	42,597,757	+22,211,170
Germany	19,719,920	−1,317,956	19,494,451	− 3,233,054
France	12,732,256	+ 444,405	13,841,315	−10,236,464
Belgium	6,509,175	− 653,048	21,698,437	+ 3,142,201
Brazil	3,087,481	− 107,763	6,934,492	+ 513,791
Italy	12,483,174	+1,284,514	3,981,443	+ 1,516,477
Netherlands	1,038,680	+ 328,965	3,507,335	+ 1,142,629
For orders	.....	.....	99,451,385	+25,670,407
All other countries	14,256,347	+2,512,617	6,999,332	− 1,102,378
Total	131,273,361	+ 711,676	223,076,267	+37,641,814

Attention is called to the large increase in the exports to the United Kingdom and the comparatively large exports to Belgium, Italy, and the Netherlands. Over 44 per cent of the total exports are placed "for orders."

IMPORTS BY PRINCIPAL ARTICLES.

To save repetitions in the following statistics all increases and decreases are as compared with the first six months of 1907:

Paper, cardboard, and manufactures thereof, $2,934,494, an increase of $589,172. Of the increase in this class $109,165 was for paper for newspapers, this being imported to the amount of $395,467. There is a paper factory in Argentina; therefore this article pays a duty of 2 cents a kilo (2.2 pounds). Paper for other kinds of printing pays 4 cents a kilo, wrapping paper 8 cents. Writing paper pays 4 cents, and was imported to the amount of 1,346,488 kilos, valued at $201,973, an increase of 56,602 kilos and $8,490. Cardboard, which pays 1½ cents per kilo, was imported to the value of $203,479, an increase of $47,476. Leather and leather goods, $1,046,711, a decrease of $12,154, which occurred in shoes and untanned skins.

Chemical and pharmaceutical products, $4,688,951, an increase of $1,061,386, which occurred chiefly in prepared medicines, $295,586, imports of this class of goods amounting to $836,462; sulphate of copper, an increase of 250 per cent; sea salt, glucose, tartaric acid, etc. Musical instruments, other than pianos, $148,820, an increase of $67,000; pianos, $313,150, a small increase.

Iron and steel and manufactures thereof, $14,366,238, an increase of $124,365. Raw materials of this class were valued at $6,811,957, a decrease of $117,676, which occurred in ungalvanized iron and wire, nails, unworked iron, and iron fence posts, while galvanized

iron wire and iron increased by $493,000. Iron and steel manufactured goods increased, but firearms, axes, cutlery, motors, and typewriters decreased.

Metals and their manufactures, other than iron and steel, $4,041,492, an increase of $911,082. Jewelry, included in this class, amounted to $543,805, an increase of $260,641.

Agricultural machinery, seeds, etc., $4,666,972, a decrease of $2,502,858, which occurred in the following articles, to the amounts given: Plows, $338,888; binder twine, $348,791; spades and picks, $21,638; rakes, $36,800; harvesters, $59,882; thrashers, $242,432; alfalfa seed, $1,299,000; other seeds, $354,580; etc.

Locomotion, etc., $16,110,305, a decrease of $9,799,148, which occurred chiefly in the following articles, to the amounts given: Street railway cars, $283,239; steel ties, $1,443,900; steel rails, $1,024,502; fish plates, $266,114; steam launches, $294,107; locomotives, $2,757,380; railway cars, $1,139,731.

Stones, earths, glass, earthenware, china, etc., $12,388,601, of which coal figured for $9,574,714, leaving $2,407,887 for all other articles in this class. There was an increase in the whole class of $2,508,926, chiefly as follows: Coal, $1,574,759; precious stones, $304,940; glassware, $105,572; earthenware, $308,671; porcelain, $76,982.

Building materials, $11,292,058, an increase of $958,970. The articles in this class showing increases and the amounts of increases were as follows: Iron pipes, $326,842; white pine, $304,472; pitch pine, $266,397; cement, $532,062; sheet glass, $284,577. Spruce pine decreased $404,370. Other articles also show decreases.

Electric apparatus and electric materials, $1,718,836, an increase of $98,000.

EXPORTS BY ARTICLES.

Pastoral products, $55,315,672, a decrease of $12,896,220. The exports of chilled and frozen meat, which is entered under this head, amounted to $12,036,980.

Agricultural products, $163,794,913, an increase of $50,739,013. The leading exports and their values were as follows: Linseed, $35,482,026; maize, $16,499,294; oats, $7,621,431; wheat, $98,167,371; wheat flour, $2,673,629.

Forest products, $2,609,330, a decrease of $118,769. Products of the mine, $322,510, a decrease of $55,335.

SOAPS IN ARGENTINA.

A GOOD MARKET FOR AMERICAN SOAPS IF PROPERLY EXPLOITED.

In answer to inquiries from manufacturers, Consul-General Alban G. Snyder, of Buenos Aires, furnishes the following information concerning the opportunities which the Argentine market offers for American soaps:

In regard to the soap business in this country I transmit, herewith, a statement showing the imports of the several kinds of soaps and the countries whence imported during the year 1907, which will give some idea of the business. A list of the local soap factories and of the wholesale grocers and others who would be interested in this line of business are also inclosed. There is a good market here for all kinds of American soaps if properly gone after. Very little attention has been paid by American soap manufacturers to this market.

The following statement shows the quantity and value of soap imported into Argentina in 1907, in gold, the Argentine dollar being equal to 96.5 cents United States currency:

Whence imported.	Quantity.	Value.	Whence imported.	Quantity.	Value.
COMMON SOAP.	*Kilos.*		MEDICINAL SOAP—cont'd.	*Kilos.*	
United States	10,613	$1,848	United Kingdom	2,302	$2,761
United Kingdom	441,391	70,561	Spain	149	179
France	57,024	11,091	Total	72,922	87,505
Spain	33,393	5,958	PERFUMED SOAP.		
Germany	16,694	3,226	United States	4,478	1,981
Italy	13,086	2,617	Germany	42,436	22,258
Other countries	2,492	356	France	33,136	15,799
Total	574,693	95,657	United Kingdom	24,703	13,612
MEDICINAL SOAP.			Other countries	441	354
United States	58,839	70,607	Total	105,194	54,004
Germany	8,911	10,693			
France	2,721	3,265			

IMPORT DUTIES.

It may be well to explain that the Argentine tariff is in most cases based upon an ad valorem duty upon a value arbitrarily fixed by the custom-house appraisers or tariff commission here. For examples, take the first class of soap, common scented. The duty is 50 per cent ad valorem on a fixed value of 40 cents a kilo (2.2 pounds), that is to say, all such soap for customs duties is valued at 40 cents a kilo and the duty accordingly levied. The duties on the other soaps per kilo are as follows:

Class.	Ad valorem duty.	Fixed value.	Class.	Ad valorem duty.	Fixed value.
Scented:	*Per cent.*		Animal	*Per cent.* 25	$0.60
Medium	50	$1.50	Common	25	.20
Fine	50	3.00	Cacao	25	.30
Soft, green or yellow	25	.05	Medicinal	25	1.20

[A list of wholesale grocers and soap factories in Buenos Aires, transmitted by Consul-General Snyder, is on file in the Bureau of Manufactures.]

CANADA.

TRADE CONDITIONS.

HOME MARKET WORTH MORE TO THE FARMER THAN FOREIGN MARKETS.

Consul-General William Harrison Bradley, of Montreal, transmits the following extracts from an address delivered by the president of the Canadian Manufacturers' Association on Canadian commercial conditions:

The interests of the farmer and the manufacturer are not antagonistic; the facts are that the prosperity of the one helps the prosperity of the other, and that the losses of the one augment the losses of the other. The manufacturer admits that the farmer stands at the basis of Canada's national prosperity. The Canadian Manufacturers' Association recognizes to the full their dependence upon the farmer, as supplying a market for their manufactured goods. It is this fact that makes the policy of land settlement of such tremendous national significance.

Last year Canada exported only a little more than half of the 92,500,000 bushels of wheat raised throughout the Dominion, after making due allowance

for what left the country in the form of flour, the home market consuming the balance. The barley crop for 1907, valued at $27,000,000, of which 4½ per cent only was exported, was nearly entirely consumed by the home market. In the last census here Canadians consumed at home eight times as much butter, seven times as many eggs, thirty-two times as much hay, and sixty-two times as many potatoes as they exported. It is thus obvious that Canadian farmers are prosperous to-day because, in a much larger measure than is commonly thought, they can dispose of almost all their produce at their own door. Take away from the Canadian farmer the towns and cities of this Dominion, and you take from him a market which is of far more value to him than all others combined.

The farmer of to-day, compared with his father before him, receives a higher price for his produce and pays less for the goods that he uses and consumes. Thirty years ago the average binder used on the farm cost $160 more than it does to-day, a reaper $70 more, a mower $30 more, and a rake $10 more. Side by side with this reduction, through the substitution of steel for wood, these implements have been made lighter and more durable, and their efficiency has been increased from 50 to 100 per cent. For a top buggy the farmer of thirty years ago paid from $175 to $250, yet what he got was vastly inferior to the buggy he can buy to-day for $90 to $100.

The peculiar industrial situation of the country must be thoroughly grasped before the difficulties facing the manufacturers can receive the consideration which is their due. Owing to the fact that, although the population of the Dominion does not exceed that of the city of London, and is scattered over a length of 4,000 miles, the cost of marketing goods is probably greater in Canada than in any other western country. Moreover, the home market is severely broken into by the steady importations of foreign goods.

BLUEBERRIES IN NOVA SCOTIA.

EXPORTS OF THE WILD BERRIES TO THE UNITED STATES FROM YARMOUTH.

Consul Alfred J. Fleming furnishes the following report on the cultivation of blueberries in Nova Scotia, and their shipment from Yarmouth:

In addition to thousands of dollars worth of fish, dried, canned, pickled, and fresh, and the vast quantities of lobsters and lumber products, with 10,000 or 20,000 barrels of apples every year, all of which are exported to the United States from this port, there is one item of no mean proportions, and that is blueberries. These berries are wild here and very abundant. The season really began July 18, and practically closed September 28, extending a trifle over two months, and during that time, by official returns received from the Yarmouth customs office, there were exported from this part the enormous quantity of 24,210 crates of blueberries, and these were worth, as given by the same authority, the handsome sum of $53,806. In other words, as most of these berries went to Boston, $53,806 of Boston money found its way back to Nova Scotia and practically the Yarmouth territory. As these shipments were all in small lots, under $100 each, no consular services were needed. It is said that last year was the banner year, the yield being very large and the berry of a very superior quality and flavor. The amount of money stated found its way into the pockets of the poor people who shipped in small quantities.

TRADE EXTENSION.

NECESSARY REQUIREMENTS.

SOUTH AFRICA.

THOROUGH KNOWLEDGE OF THE NEEDS OF THE PEOPLE IS ESSENTIAL.

Consul-General L. M. Iddings, of Cairo, forwards a newspaper clipping in which a writer gives a careful estimate of the industrial and commercial conditions, with special reference to the opportunities open in these lines in the Egyptian Sudan, which is summarized as follows:

It is of first importance on the part of persons desiring to do business in the Sudan to obtain a practical knowledge of the people and the country if they would succeed. The salesmen of merchandise and buyers of native products must have a sympathetic appreciation of the conditions and needs of their clients; they should be able to speak the language of the people with whom they are dealing and at the least they must be able to quote prices and measures in the terms of the local markets. Exporters are advised to sell such goods as the markets demand rather than to attempt to dispose of ill-suited goods which a manufacturer may be willing to sell at a bargain.

Another item that exporters must take note of and comply with is the manner of packing goods. Transportation in the Sudan is by camel, mule, and donkey. Before sending goods careful inquiry should be made as to which of these methods is in use in the particular locality in question. The directions given for packing are to the effect that no package may exceed 200 pounds in weight. A camel can carry 350 pounds, but this load must be in two parts, one for each side of the camel. The load for a donkey must not exceed 100 to 150 pounds, while the mule can carry 150 to 230 pounds. The size of packs must not exceed the following measurements: For camels, 4 by 2 by 2½ feet; for donkeys, 2 by 1½ by 1½ feet.

CERTAIN GOODS NEED SPECIAL PACKING.

On account of probable exposure to severe tests of weather before final delivery it is essential that silk and cotton goods be carefully wrapped in waterproof material; woolen goods must be packed in naphthaline as well as in waterproof coverings. Earthenware and glass jars as containers should, as far as possible, be avoided on account of weight, especially if the fruit and provisions are destined for distant interior points. But whenever such containers are used they should have the form of useful household articles, such as jugs, glasses, basins, etc.

Instead of individual exporters entering this field it is strongly advised that a number of exporters whose interests do not clash organize a trac[illegible] c[illegible]y [illegible]d establish a well-stocked base of supplies at some [illegible] [illegible]ving and shipping point within the country. Then [illegible] [illegible]ager, who is acquainted with the lan-

guage, customs, and needs of the people and the character of the country, and who is also qualified to buy raw products to the advantage of the company, may be sent out to cover a wide stretch of territory. In case such a base of supply is located within the country, all goods may be shipped in bulk and repacked at the base in accordance with local requirements.

Khartum is the seat of government and the chief city, while Omdurman, the native portion of the city, is the principal market in the Sudan. Exporters will be glad to learn that in accordance with arrangements soon to be completed merchants may receive their goods in bond at Khartum, thus avoiding the inconveniences arising from their examination at the seaports.

OPPORTUNITIES FOR PETROLEUM TANKS, BUILDING SUPPLIES, ETC.

Among the opportunities at Omdurman the establishment of petroleum tanks would be one of the most promising. Of practically equal promise are openings for a dealer in general provisions and a builders' merchant carrying all kinds of building requisites. Agricultural implements of the simplest kinds, petroleum engines, gins, and cotton presses for bullock power will find a market in this locality. There is no demand for steam plows or elaborate thrashing machines. Exporters are also advised not to introduce any trashy articles, as the natives lay great stress upon durability of wares.

Following are some of the other leading centers for the collection of raw products and the distribution of merchandise in eastern part of the Sudan: Port Sudan offers an excellent opening for a petroleum tank, a coal depot, and a cold-storage plant; Suakin is an advantageously situated place for the collection, ginning, and transshipment of cotton; at Singa a transportation company for the collection and distribution of merchandise would find a large and lucrative business.

WHITE NILE AND OTHER TRADING CENTERS.

Dueim, the capital of the White Nile Province, is the center of the gum industry and an excellent trading center, offering a steady demand for gunny bags, flour, petroleum, cotton piece goods, small weighing machines, iron rods and bars, enamel ware, hardware, tools of all kinds, cotton presses, gins, and plows.

Kassala, capital of the province of that name, is enjoying great prosperity, owing to a recently established irrigation system whereby large tracts of almost worthless lands have been turned into productive cotton fields. A railway nearly completed will give an added impetus to agricultural development and an extension to the already important trade of Kassala. Timber, cement, galvanized iron, cotton goods, soap, and enameled ware find a ready sale in this locality. The raw products that may be collected here are raw cotton, beeswax, pepper, sesame seed and oil, gum of all kinds, and coffee.

On account of the exceptional progress in agriculture and its promise for the future this locality offers a splendid opening for a company which is willing to acquaint itself with the needs and the resources of the country and undertake their economic exploitation.

OUTLYING TRADING POINTS.

Rosieres is the last navigable point on the Blue Nile and an important trading place. Horses, mules, and cattle, besides practically all

the native products already mentioned in other localities, enter into the trade at this place. Wind-proof petroleum lamps are urgently needed, and cotton goods find a steady market. But the natives of this region do not use iron bedsteads, ready-made clothing, hats, or boots.

Among other places Gallabat on the frontier and Gedaref in the gum district of Kassala province are important distributing and collecting points and already have well-established trade with the surrounding localities. At the latter place there is an active market for corrugated iron roofing and house fittings, such as doors, window frames, etc.

A word of warning is given against reckless granting of credit, the abuse of which has led certain dealers to pay old debts with the proceeds of the sale of goods obtained on credit from newcomers.

CANADIAN SHIPMENTS.

A CARGO FROM MONTREAL SHOWING WHAT THE DOMINION IS SELLING.

Consul-General William Harrison Bradley advises that one of the Elder Dempster Line steamers, which sails from Montreal direct to South Africa, left that Canadian port on October 10 with a very large cargo, which he describes:

The vessel calls at Cape Town, Port Elizabeth, East London, Durban, Delagoa Bay, and was loaded to capacity with a comprehensive cargo. The manifests show that there is a demand in South Africa for high class sheep, and the Canada Cape has 68 prize merinos for stock purposes. The ship also took 35,000 sacks of flour, weighing 1,550 tons, which is the largest consignment of flour ever sent to the Cape. Of this amount 30,000 sacks were from Canadian mills.

Included in the cargo were 2,946 pieces of pitch pine lumber, 171 tons of mining machinery, 276 packages of boilers and tubes, 100 standards of deals, 3,600 barrels of apples, and 400 half barrels of apples, 9,400 pieces of staves, 8 cars of white pine lumber, 3,615 cases of Quaker oats, 1,525 cases of condensed milk, 50 tons of meats and lard, 75 barrels of plaster, 300 tons of newspaper, 960 reels of wire, 55 casks of extract, 264 bales of twine, 17 cases of carriages, 8 cases of prepared food, 5 cases of organs, 427 sacks of pease, 26 cases of furniture, 6 automobiles, 14 cases of chairs, 20 cases of wheelbarrows, 3 cases of coffins, 893 boxes of butter, 236 boxes of cheese, 20 tons of house and farm sundries, etc. While Canada is sending large quantities of goods to the Cape, the Cape appears to be sending little in return.

CHINA.

GRADUAL ADOPTION OF WESTERN LIFE OPENS UP A BROADENING MARKET.

Writing from Canton, Vice-Consul-General Willard B. Hull says that consular officers in China are constantly in receipt of commercial letters of inquiry from the various manufacturers in the United States requesting information as to the prospects for business in that country and what opportunities are open for their particular line of goods. Catalogues of various kinds are usually forwarded with these letters for filing purposes. Mr. Hull continues:

A review of the list of foreign imports into China during 1907 shows that there is in China a market for a multitude of foreign-

made articles. In fact there is no reason why this country should not in time adopt and have in common use much that is to-day used in all civilized countries. Many foodstuffs in common use in foreign countries are now finding a market here, numerous articles of foreign clothing are being worn, while as regards general articles of common manufacture in modern countries, the list of sundries in the table of foreign imports shows an ever-increasing variety, so we may be led to believe that in the future the bulk of our modern utilities will be in use among the Chinese.

This may take many years to bring about, but we can easily imagine that the practice of adoption from foreign countries, which has been so common in Japan, may soon be followed here. The field may, therefore, in some ways be compared with what Japan has been, with the exception that China is a much vaster Empire, having many more natural resources awaiting development and about ten times the population, but at the same time an almost instinctive conservatism which in numerous ways must be overcome. The field has practically just been opened up and the development has yet to be brought about. To these facts the foreigners seeking a market here must give due recognition, and must keep them constantly in view. For some articles the work of securing their adoption by the Chinese has in a large way been completed and the conditions of the market, therefore, divide themselves into two general phases: (1) The market for goods which have already been taken into use by the Chinese and have been long enough established as to be considered by them necessary, and (2) the market for articles the value of which the Chinese have yet to be shown before they will adopt them.

TRADE BUILDING METHODS.

Manufacturers of articles coming under the first classification, having demonstrated to the Chinese the usefulness of their product, have now only to meet their foreign competitors in the field, usually in price, and thus secure the business. For those dealers who wish to create a market for their products among the Chinese the task of educating them up to their use and of persuading them of their advantages must be met. In this work patience is necessary and price the great factor. Many articles of foreign manufacture, which the Chinese readily see the usefulness of, find a limited market owing to their high price. If a cheaper grade can first be given the people to buy, its adoption and use in time makes it indispensable and then the market may be gradually supplied with a higher-grade article of a greater value.

A careful study of the existing or future markets must be made by manufacturers and when once they understand conditions they must adapt themselves to them. American business firms are constantly sending out catalogues in English, with occasionally Spanish, French, or German translations, which is a mistake for the Chinese market. The Chinese people do not come to the office and ask to see catalogues of foreign goods. The person who wants to sell to them must go with prices and catalogues and persuade them of the merits of the articles. To do this necessitates a representative of some kind and it is just this feature in which American business houses are behind.

Of course many American firms have local business houses as their agents, but as these houses are usually German, French, or British, the sale of American products is handicapped by the fact that a foreign firm will scarcely endeavor to sell American goods as long as its own country can supply them, nor give preference to an American machine over one of its own of the same type. This results in American goods being kept in reserve as a second choice, while practically nothing is done to properly exploit the field in our lines. Manufacturers in the United States must, therefore, not expect the business they are entitled to unless they are willing to send personal representatives to this country to patiently study and work up a market. This is the only way to be sure of selling goods here, for regardless of how good consular reports may be on the conditions, they can never bring manufacturers in close enough touch with the market.

Consular officers may be consulted as to the advisability of sending representatives and as to what the prospects for consumption are, but it is out of the question to expect them to build up a trade for American goods on the catalogues and price lists they have on file in their respective offices. Some firms have already sent out personal representatives, but in many cases these persons have merely traveled from one port to another, spending a day or two in each place, and accomplishing nothing aside from possibly securing a British or German firm to act as their agent, which could have been done by mail.

What American firms need in China are more salesmen and representatives who will come and study the situation patiently, and gradually build up a paying business, and fewer catalogues, which in many cases do not give sufficient specifications or details and are often without prices, or when prices are given there is a trade discount which can only be ascertained by writing home, requiring the time in which the article could actually be received from Europe.

NANKING.

FAILURE OF TRADE SEEKERS TO ENLIST AID OF GOVERNMENT.

Consul J. C. McNally, of Nanking, repeats the statement made by many other officers that it is unusual for an American salesman to call on a consul, either to obtain trade information or in the nature of a social call. Mr. McNally points out what this neglect means:

This apparent indifference may be due to the inherent confidence of the American pathfinder in his ability to work out a commercial success, or to the belief that the consul is either ignorant of existing trade wants, or that he is too busy to give him the attention he requires. It matters not how well fortified a salesman may be in his own country, either as to the nature or quality of his goods, or his peculiar fitness to intelligently demonstrate their merits, his first introduction to the foreign trade will force the discovery that the prevailing competition has created new demands for him to meet before he can entertain the hope of placing an order.

National prejudices may have to be removed; local characteristics and tastes may have to be consulted; small concessions may have to be made, and innumerable other elements may enter into the probability of success; elements known to the consul, the knowledge of

which would prove valuable to the harbinger of America's commercial supremacy—at least in his line.

Salesmen of other nations are sure to visit their consuls when entering a new field, and the measure of success they seem to enjoy would indicate that the information received was of great benefit. The consul no doubt imparted information that enabled the salesman to go into the matter with a knowledge of the demands that the prospective buyer is certain to make, and, being forewarned is forearmed, to meet the demands, or at least to formulate a plan of action based on the information received.

What foreign consuls can do, the American officer can do, and I believe more effectively. His advice, valuable by reason of his local experience, will convince that the same "time is money" attitude that would be accepted at home, as a matter of course, would be interpreted abroad as being rude and ungentlemanly; that the same practices that serve to ingratiate a salesman with his prospective buyer at home would invite disaster abroad. Of course different localities have native dispositions and tastes that must be humored if one hopes to win a customer.

No better start can be made in a foreign market than by absorbing whatever information the consul can impart. His pursuit for information on which to base his reports, his daily contact with the local tradespeople, gives him an opportunity to learn the conditions that invite in his market goods other than American. Once the reason for the preference is ascertained, it is easy to point out the way to remove the bar, if any, or at least to mitigate its importance.

The prevailing trade peculiarities, the temperament of the people, the national characteristics as to tastes, as well as other matters, are necessary to the salesman's general knowledge. The consulate is the only reliable source of information, and the advice obtained there will form a valuable asset to one about to exploit the markets of his consular district.

AMERICAN GOODS SHOULD BE INTRODUCED THROUGH SHANGHAI.

Replying to the many inquiries received at the Nanking consulate as to the possibility for the introduction of American products into that Chinese market, Consul McNally writes:

Requests are also made that persons be designated to handle products from the United States. It may be stated that the cities comprising the Nanking consular district are so close to Shanghai, the leading port of the Orient, that they form but channels to its general trade. Direct railway communication with Chinkiang and Nanking and a splendid boat service from Nanking to Wuhu practically makes these cities a part of Shanghai as far as trade is concerned, some firms shipping goods in fairly large quantities free of cost to the consignee. There is not one independent foreign firm in this district, the usual business being done by either local shopkeepers (Chinese) or Chinese compradors representing their Shanghai principals.

The reasonable plan to be adopted by those contemplating business in this section would be to appoint some business man already established in Shanghai to handle their products, who could not only get the benefit of the business of that thriving port, but also build up an interior trade, making his Shanghai house a distributing depot.

MEXICO.

ADVANTAGES OFFERED—ADVICE TO SHIPPERS.

In reply to an inquiry in regard to advantages offered in Latin-American countries for the sale of American products, Consul Arminius T. Haeberle, of Manzanillo, Mexico, writes:

Speaking of Mexico as a field for American trade, it is of prime importance to realize that the fundamental advantage is the peaceful conditions and financial stability this country is enjoying. These conditions have resulted in growing prosperity and many improvements, such as fine harbors and the building of many railway systems throughout the country. Former impossibilities of carrying on trade with many parts of Mexico have thus been overcome in consequence of the increased facilities for transportation. In this connection it is important to call the attention of the American manufacturer to the new railroad which will be completed about November 15 and establish connection between Guadalajara and the coast, terminating at the port of Manzanillo. This new line, connecting the United States with Colima, the capital and most important city of this State, ought to open up a new field of commercial activity, especially to the manufacturer of the southern and middle west States. The State of Colima, although comparatively small, is very fertile, and the new Mexican Central Railroad, it is hoped, will help to develop the resources of the State and open up new agricultural possibilities and new markets for American trade.

COMPLAINTS AGAINST AMERICAN SHIPPERS.

The opportunities for the American manufacturer in Latin-American countries are certainly numerous, but in the interest of American export trade it might be well to sum up certain objections to American shippers, because of the frequency with which they are made in the North American as well as the South American Republics, in which I have had occasion to travel. The importer of American goods usually complains either about the high prices or the imperfect methods of packing that cause extra expense through breakage or because of unnecessary size and weight of the box or case. Another source of trouble is the independence of many American shippers in regard to meeting the wishes of purchasers in Latin-American countries and studying their business methods. Fortunately these objections may be readily overcome if the American shipper earnestly seeks trade with Latin-America, and if he realizes the splendid opportunities for trade with these countries.

CHIHUAHUA.

INFORMATION CONCERNING THE MEXICAN CITY AS A TRADE CENTER.

In answer to an inquiry as to the advantages in Mexico for American trade, Vice-Consul C. M. Leonard, of Chihuahua, furnishes the following information concerning his consular district:

Chihuahua is a progressive city of about 40,000 inhabitants, about 2,000 of whom are English-speaking foreigners. It is situated 225 miles south of the border city of El Paso, Tex., and almost in the geographical center of the State of Chihuahua. It is the distributing point for a large area of country devoted to mining, agriculture, and

stock raising, and does a large trade in mining machinery and supplies, farm machinery, and general merchandise.

By an intelligent understanding of the conditions here and a proper effort to fulfill the requirements of the importers the United States should supply this district with nearly all the commodities used.

SELLING GOODS—PACKING—CREDITS—IMPORTS.

So much has been written about the shortcomings of American manufacturers and merchants in properly catering to the trade of Mexico that little remains to be said on the subject, but a few points should be kept in mind.

If the exporter does not maintain a branch house or selling agency in this country, he should employ traveling salesmen speaking Spanish fluently and knowing the business customs of the country. The native merchant has some peculiar notions, and these should be respected as far as possible. European exporters study the styles here and produce articles to correspond.

More care should be exercised in packing and shipping, and a thorough knowledge of the Mexican customs regulations should be had, for slight errors in the manifesting of goods often cause heavy fines to be assessed, which must be paid by the importer.

Credits should be more liberal. Europeans usually grant from three to nine months to reliable houses in this country, while Americans in nearly all cases sell for cash, or at most from thirty to sixty days. As the merchants here do a large business with the farmers on a long-credit basis, it is a hardship to buy for cash in some instances. If exporters are ordinarily careful, they will find the extension of credits in this country as safe as at home.

The following is a list of imports into Mexico which come exclusively or largely from the United States: Groceries, boots and shoes, hats, ready-to-wear clothing, cotton ducks, hardware, farm and mining machinery, furniture, firearms, carriages, wagons and harness, automobiles, sewing machines, pianos, other musical instruments, books, periodicals, and stationery.

The articles which are imported mostly from other countries are as follows: Silk, linen, cotton and woolen piece goods, cutlery, crockery, window and plate glass, and enameled ware.

MONTEREY.

AMERICANS FAIL TO MEET THE REQUIREMENTS OF THE MARKET.

In transmitting the following report concerning the failure of American manufacturers and exporters to fully meet the requirements of the Mexican market, Vice-Consul-General T. Ayres Robertson, of Monterey, says that the outlook for trade in the Republic is very bright:

To compete with Europe it is of the utmost importance for American manufacturers to properly appreciate the requirements of the Mexican markets and the conditions surrounding them. It has been a custom to send traveling men to this country who do not speak the language, who are not familiar with existing trade conditions, and who believe that this trade can be handled exactly the same as in the United States. This is a great error and is the cause of American

concerns losing much of the business in Mexico to which they are entitled by reason of their geographical situation and the merit of their goods.

In order to properly establish trade relations with Mexico it will be necessary for the American manufacturer to do the same as his European competitor, that is, either to make use of the service of reputable people who are on the ground, familiar with the local conditions, who can make delivered prices in Mexican money, and look after the delivery of the material and its proper entry through the custom-house, or to send out from the factory a representative who possesses, first of all, a knowledge of the language and who is able to converse directly with the people whom he desires to interest. He should be familiar with the custom-house classification of his goods, know the duties that will be assessed against their importation into the country, and be able to quote delivered price on the article which he proposes to sell. If he does not possess these qualities he will not succeed in doing much business in Mexico, in competition with foreign merchants who cater to the immediate requirements of the trade and at the same time send people who are able to make their representations direct.

If a manufacturing industry proposes to deal through some established concern as agents, it will accomplish more than by any other method as, under equal circumstances, local people will always have the advantage in their knowledge of local conditions and in their personal relations, which is an item of great importance in commercial Mexico.

MEXICAN CUSTOMS REGULATIONS—GRANTING OF CREDITS.

It is absolutely essential for imports into this country that the regulations established by the custom-house department be complied with in every particular, otherwise they are subject to fines, delays, and other difficulties which would be entirely obviated if care is taken in the shipment of goods from the factory. Owing to a ruling of the customs department, all shipments into Mexico should be covered by bill of lading, shipper's manifest, and detailed invoice. Copies of these documents should be sent direct by the shipper to a reputable customs agent at the port of entry and originals to the consignee at destination. This will enable the material to be promptly and satisfactorily handled through the custom-house, and will obviate any delays or fines for improper classification.

The customs department provides a fine on shipments whose weight is not properly specified, or whose classifications are not in conformity with the official classification issued by the Government. If the shipper is not familiar with these conditions, the forwarding of the shipper's manifest, showing weight of each article, both gross and net, and the invoice showing the value, will place in the hands of the customs agent the necessary information, which will enable him to properly classify the merchandise and prevent an infringement of the regulation and consequent fine.

Another point which the American manufacturer has insisted upon up to the present time is that no goods shall leave his factory or the United States without his first having received full payment therefor. This method is directly opposed to that pursued by European

shippers who are always willing to grant terms and time to purchasers of established solvency. The Mexican merchant takes the position that he should not be called upon to trust his money with a foreign manufacturing concern, if that concern is not willing to trust him with their goods.

There are methods of ascertaining the solvency and financial responsibility of concerns in Mexico the same as in the United States, and the same credits and terms should be accorded the Mexican buyer as is customary to the same class of purchaser in the United States. There is no question that the American manufacturers can greatly increase trade with Mexico if they will endeavor to study the trade conditions of the country and try to meet the Mexican buyer on anything like the same footing as do the European merchants.

SAN LUIS POTOSI.

ADVICE FROM MEXICO FOR BUSINESS MEN GOING TO LATIN AMERICA.

In view of the large number of unqualified Americans seeking employment in Mexico, Consul George A. Bucklin, jr., of San Luis Potosi, says that a word of caution will not be amiss. He writes:

In general, the young man turning toward Mexico for employment will be disappointed unless he possesses qualifications entitling him to consideration. The young man coming here from other countries is usually either well prepared or applies himself studiously to mastering the language and work in hand. I know personally of American firms whose help is drawn almost entirely from Europe. The Mexican Herald remarks upon this:

> British and American youths who wish to add Spanish to their linguistic equipment should copy the example of the studious young Germans coming to these countries. A German clerk on his way out to the Americas will work away on his Spanish grammar on shipboard, and directly he lands he will make use of whatever he has acquired in the way of useful phrases; he makes of his native interlocutors so many teachers of pronunciation. The fine points in grammar and pronunciation—and they are many—he does not trouble himself greatly about at first, leaving to a later time the perfecting of himself in the details of the language. But from the very beginning he does not neglect the grammar, that basis of all accurate knowledge.
>
> A good working knowledge of Spanish adds largely to the earning power of any young foreigner in Spanish America, and in most of these countries it is quite indispensable.

Notwithstanding the depression in all lines, young men well qualified are in demand, and in fact are difficult to secure even at high salaries; but there are few places for the man of one language, or for the man who has but a smattering of two or three. Nor are there many opportunities for the man who wants to come here and be taught his business and the language. The country wants prepared men who can do a definite task and who have the linguistic preparation to deal with the people in their own tongue.

CHILE.

BETTER METHODS BEING USED FOR GOODS TO SOUTH AMERICA.

Consul Alfred A. Winslow, of Valparaiso, says that it is encouraging to report progress along the line of better packing on the part of American shippers to Chile, but that there is still plenty of room for further improvement. The consul writes:

A tougher kind of lumber should be used in making the cases, and they should be securely bound with strap iron. The ordinary brittle pine is not suitable; it is too easily crushed. My attention was lately called to a case of catsup that arrived with fifteen bottles broken out of two dozen. This was partly owing to the light lumber of which the case was made, it being half-inch stuff, and the further fact that the bottles were packed loosely in small wooden cartons or compartments, without being wrapped with straw.

Manufacturers who carry large stocks in warehouses at seaports for export should have their cases intended for the South American trade especially well packed, and mark them "packed for the South American trade," and see that only such goods are sent to this part of the world. It is very disheartening for the foreign buyer to open a case of goods and find them badly damaged, when a little attention on the part of the seller might have prevented it.

There is much satisfaction in knowing that many exporters listen to the advice and warning so often given by American consuls from different parts of the world on the subject of packing, but it is the few who do not give heed that often drive the good customers from ever purchasing any more American goods.

UNITED KINGDOM.

MANY AMERICAN ARTICLES NOW POPULAR IN SCOTLAND.

Consul J. C. Higgins, of Dundee, in the following report notes some conditions and circumstances by which an American manufacturing firm desiring to enter the British and other foreign fields may profit:

While consuls get many requests from American business men for lists of firms engaged in their trade, which are promptly supplied, correspondence with such firms can not fail to instruct the would-be exporter as to whether his goods are to have an opening that is worth seeking. If he is encouraged to make the attempt he must at once decide whether he is to seek to do business by correspondence and circular, or by appointing a stock-carrying agent or by opening a salesroom on his own account. There are now to be seen elaborately illustrated London circulars devoted exclusively to American goods, also a Sheffield circular with an American department of many pages. A London house is, by attractive advertising, pushing an American safety razor to a phenomenal sale, but the commercial traveler is mainly used. Great Britain is territorially so compact that business over its entire area can be cheaply conducted. A traveling salesman can leave London or Liverpool or Glasgow in the evening and be ready for business in any British city by the opening hour of the next morning. The commercial traveler is always to be seen. If he is selling dry goods a porter attends him with a barrowful of trunks or hampers, from which samples are drawn as wanted. While there is a strong theoretical sentiment in favor of homemade goods, it probably seldom prevents a buyer from taking the better article for the money, whether by finish or adaptability, no matter where made. In hardware, for instance, the following American goods have a market: Tailors' shears, safety razors, fret machines, iron planes, bread knives, spokeshaves, saws, hammers, wrenches, screw bits, drills, tool pads, hand drills, iron-frame saws, glass cutters, screw-drivers, revolution counters, cutting

pliers, hack saws, screw-pitch gages, screw-cutting tools, surface gages, chucks, etc.

It may be surprising that American money is not easily comprehended by an English-speaking people, and yet Americans at first find themselves at sea when called on to reckon in British money. A special column giving exact equivalents in British money would surely add to the interest of any American circular and might result in business.

A leading importer of American apples goes to Canada for them, because there he finds a national barrel. Those from the United States are claimed to vary greatly. This has a special meaning for those who sell apples by the pound at retail.

MARKET OPENINGS.

RUSSIA.

WHAT AMERICANS MUST DO TO WIN AND HOLD THEIR SHARE.

Vice-Consul William Dawson, jr., of St. Petersburg, furnishes the following information concerning trade conditions in Russia, and the opportunities for American exporters if they comply with the usages and requirements of the market:

To extend American trade in Russia, and to reap some advantage of the very considerable field which awaits exporters, business methods will have to be radically changed. The market must be carefully studied and a conscientious effort made to suit the tastes and needs thereof; commercial methods must be conformed to, and, of course, the principal change to be operated is that in the system of credits. Long credits are quite universally given in Russia, and European houses owe their rapid successes to the facilities they accord purchasers.

As a rule American merchants require cash at the port of shipping against the bill of lading. Such conditions are rigorous under any circumstances, but especially hard in a country where long credits are commonly granted and where the article paid for can not be delivered for months. Some concessions must be made, such as from 15 to 20 per cent against bill of lading, 20 to 30 per cent on delivery, and the balance in six months, or, in the case of agricultural implements, after the harvest is in. On costly machinery even more liberal terms must be offered, payment not generally being demanded here before two years. Indiscriminate credit is not advocated; on the contrary, every care should be taken to deal with reliable firms or individual buyers, but after the necessary precautions have been taken more liberality should be shown.

In order to do a conservative and at the same time active business, it is indispensable to find the right sort of agent, or, better still, to send a representative here who should be an experienced man, who, in default of Russian, should know German, which is the commercial language of the country.

RUSSIAN CIRCULARS—TECHNICAL BUREAUS.

In the distribution of advertising material, pamphlets and price lists should be printed in Russian, with weights and quotations in Russian units. Here German exporters have established a valuable

precedent, and English consuls attribute the advance taken by German over English products to the large number of brochures of all sorts printed in Russian characters, with which rural districts are fairly inundated.

Another method of extending trade which has been adopted by English and German firms is worthy of mention. This is the organization of technical bureaus, founded in common by half a dozen manufacturers for the purpose of explaining complicated machinery to prospective buyers. In the case of expensive articles, which are not in general use or generally understood in Russia, their introduction can be greatly facilitated by the installation of such a bureau in industrial centers, such as, for instance, St. Petersburg or Warsaw.

All of the foregoing measures will prove fruitless, however, unless longer credits are granted by American dealers; this is indispensable to the extension of American trade in Russia.

But to win the market and get orders is only half. The market must be held, and, where competition is active, this requires constant vigilance and unrelaxed effort.

Complaints as to packing American goods are too frequent. The following statement was recently made by a local importer:

About a year ago I ordered two office desks, one in the United States, the other in Germany. The American desk was packed for the long sea voyage and the inevitable rough handling in a light wooden frame, and covered with ordinary wrapping paper. As a result the top and sides were scratched beyond recognition and certain parts were also missing, which was even less complimentary to the exporting firm. On the other hand, the German desk had been well boxed up, covered with corrugated paper, and arrived in as good condition as when it left the factory.

This is, of course, an extreme case, but such an occurrence is remembered when many well-filled orders are forgotten, and the effect is disastrous when business is carried on with the present cash-in-advance requirement.

THE PRESENT PROPITIOUS FOR AMERICAN EXPORTERS.

It is sincerely to be hoped that American business men will make use of the rich field that Russia surely offers. The present seems particularly propitious. In addition to the prospects of a growing demand throughout the Empire, certain districts offer especially good opportunities. Such, for instance, is Poland, with an exceedingly active population.

In the Baltic provinces the well-to-do middle classes are ready to repair the losses of dull years. The prosperity of the textile industry around Moscow and of the Donetz coal basin merits attention, and the successful efforts of the Government to colonize Siberia mean a prompt opening of one of the great markets of the future. It rests with American exporters to decide whether or not European countries are to reap the whole of this rich harvest.

GERMANY.

FAVORABLE OPPORTUNITIES FOR AMERICAN TRADE.

Consul-General Frank Dillingham, of Coburg, furnishes the following report concerning the opportunities for enlarging American trade in the Duchy of Saxe-Coburg-Gotha:

The district now covered by the consulate-general of Coburg (generally changed and enlarged on July 1, 1908), affords opportunities

for American exploitation, and the best way for exporters to reach its trade will be through good and experienced German-speaking salesmen, with samples of the goods to be introduced, so that the merchants can personally inspect them. The Duchy of Saxe-Coburg-Gotha has not been exploited by American firms, and the few American manufactures now sold here are purchased from importing houses in Berlin, about seven hours' run by fast express train from Coburg.

Coburg is purely a court town, with beautiful private residences and public buildings, but Bamberg, Bavaria, and several other good-sized cities outside of this Duchy, now included in this consulate-general, are commercial cities and afford good opportunities for American trade, and if they are carefully canvassed, and favorable prices and good terms of credit are offered, exporters can, in time, establish a lucrative trade in many lines, especially in boots and shoes. Simply to flood this office with a lot of English printed advertising matter, as many firms do, with requests that the same be distributed among the various business houses in the district, is a useless thing to do, because no English is spoken or read here. Literature printed in English is absolutely worthless, and if sent directly to the trade, as it sometimes is, goes immediately into the waste basket.

BEST METHODS FOR ESTABLISHING TRADE.

Another good way to introduce American goods will be to have exhibits in five or six of the larger cities, with a manager, who speaks German, at the head of each exhibit to invite the merchants and people in these cities to visit them, and also to gradually get the tradespeople from the adjoining towns also to visit them. There will be little difficulty in getting the people to do so, because if there is any one thing that thoroughly delights the average German it is to visit exhibitions, small or large. There are at least 500,000 people in this consular district who know nothing about American goods. These people are, for the greater part, in Thüringen, northern Bavaria, and Saxony. Attractive posters, printed in German, can be distributed throughout the district, descriptive of the exhibits, which will arouse their interest to such an extent that they will gladly visit the exhibits. In other parts of the Empire these exhibits have proven very satisfactory. In addition to boots and shoes the following goods can also be introduced: Food products of all kinds; machinery; tools used by carpenters and masons, and, in fact, all other kinds of articles in this line of goods; the better classes of cotton and rubber goods, especially rubber boots; light wagons, and the cheaper grades of furniture, domestic furniture being very heavy, massive, and expensive, and many more articles. Under the conditions named, this new consular district can be made a good field for American exporters to exploit, no matter what their manufactures may be.

UNITED KINGDOM.

OPENING FOR AMERICAN ELECTRIC DISPLAYS IN THE UNITED KINGDOM.

Consul Albert Halstead, of Birmingham, furnishes the following information concerning the opportunity which exists in the United Kingdom for the introduction of American advertising signs:

The ordinary electric sign, with letters displayed by the insertion electric bulbs, are quite common here, but there is a good oppor-

tunity for the introduction of those novel signs, with twelve electric globes on a side, to the intermittent sign, such as attract attention by their alternating lighting and extinction, especially those signs called pyro, with their reflecting letters and light-absorbing backgrounds, and which require little power to make them brilliant.

In many English cities the electric-light supply is under municipal control, and the authorities for the most part are as anxious to increase the use of their current as are private companies. It seems, therefore, that the manager of municipal electric supplies and of specialties furnished by private companies could be interested in the sale of attractive electric signs, and that if an agent who understands British conditions were to be employed, good business might result. In regard to signs of the intermittent kind, in some cities they might be prohibited, but probably only in certain sections, because of their supposedly harmful effect on eyesight.

An American in Birmingham [address obtainable from Bureau of Manufactures] has intimated to me that he will be interested in introducing these sign specialties in England should sign companies not care to send their own representatives over. It is absolutely useless to attempt to introduce such novelties by correspondence.

AMERICAN SHOW CASES.

AN EXCELLENT OPENING FOR THEIR SALE IN BRITISH CITIES.

Consul Halstead also reports that the Birmingham district, and all of the United Kingdom in fact, appear to offer an excellent field for the introduction of all kinds of American show cases. The consul therefore enters into an explanation of this trade opportunity:

I refer to the types commonly used in American stores in place of counters and often called "the silent salesman." These include those made almost wholly of plate glass with glass shelves, bound together with rivets and with no wood except their backs and bases, the latter being sometimes marble; those with light metal or wood frames which cost much less, and the still cheaper grades made of metal or wood with plate-glass tops, common glass fronts, and glass and wooden shelves.

The wooden counter is almost universally used in the United Kingdom and much attractive show space is thus lost. The British market seems to offer an opening for show cases, counters of all descriptions, costlier ones for the large stores and cheaper ones for the smaller stores, which are so much more numerous in England than in the United States.

The cultivation of the British field would require the personal representation of show-case manufacturers and the assistance of salesmen fully acquainted with British customs and prejudices. There are in England Americans who have lived here long enough to understand British habits and requirements and who are fitted for such salesmanship. The American salesman who understands the British field seems to me to be preferable for selling a new line of goods, because he has not only a knowledge of the field and understands his own country's methods, but has the incentive of pride in pushing American products.

SALES PROGRAMME.

The American manufacturer who would enter the field indicated should establish a show room in London and keep there a reasonable

supply of show cases of standard value. Then by use of a proper code orders could be cabled and filled promptly. Promptness in filling orders and delivery is an absolute requisite. The manufacturer's representative should be able to say exactly when goods can be delivered and keep his promise. Failure to deliver in time or any departure from the strict letter of an agreement or promise is most prejudicial, almost destructive, to the development of trade.

I am convinced that nothing worth while can be done by sending catalogues only to British shopkeepers and stores, for the Englishman will not buy an article unless he sees a sample. It must appear to him from personal investigation to meet his wants. Nevertheless, catalogues with prices in English money will be most helpful and really necessary. The prices, however, must include delivery not only in England but to the purchaser at his place of business.

The American manufacturer who would introduce his show cases, or for that matter any one of his products in the United Kingdom, must understand that no immediate profit is probable. He should be willing to regard his original expenditure as an outlay of capital and be satisfied with a return on that expenditure as an investment. He must expect to lay out as much money in introducing his goods into the United Kingdom as he would in establishing an agency in an American city, but in the United Kingdom he could cover a much greater population in a smaller area and one that is more accessible. In the sale of American show cases in England profits might come more quickly than in other articles where competition from the first is keener, but the manufacturer should not expect immediate results and must cultivate patience.

GREECE.

TYPEWRITING MACHINES, SAFETY RAZORS, AND BABY CARRIAGES.

Consul Edward I. Nathan furnishes the following information concerning trade in American goods in the Greek port of Patras:

There have recently been considerable importations of typewriters, mostly of American make, into Patras by the leading importing and shipping houses, some of whom own several machines. One machine that is very popular is a combination of the Greek and Roman alphabets, operated by the insertion and abstraction of interchangeable keyboards with the respective alphabets. Of the standard American typewriters a preference is expressed for those with visible writing. Several machines with only the Greek alphabet are also operated. Most of the typewriters are imported through regular European agencies. There are no representatives in Patras, though Athens has several.

American safety razors are beginning to find favor among the Greeks, and are now sold in Athens. There are no dealers handling them in Patras, but their sale might be made profitable here.

There would seem to be a small market in Patras for American-made baby carriages or go-carts. The few now in use here are preferred to the heavy French baby coaches that have been imported hitherto.

[The names of parties who would be likely to handle the foregoing articles in Patras are filed in the Bureau of Manufactures.]

TURKEY.

COTTON SEED OIL IMPORTS RAPIDLY GROWING SINCE EMBARGO REMOVED.

Referring again to the possibilities in the Turkish market for the sale of cotton-seed oil, Ambassador John G. A. Leishman, of Constantinople, sends the following statistics and comments regarding the importation of this article during the first year of its admission into the Ottoman Empire:

Six thousand barrels of oil, representing a value of about $150,000, have been imported into Constantinople alone during the first six months of the current year. These figures represent oil manufactured in the United States and shipped under American brands, while a certain though probably small amount likewise comes here carried through Marseille. In addition to this, other shipments have been made direct to Smyrna, Salonica, and Beirut. Since the restrictions on cotton-seed oil have been removed, the importation of sesame oil has practically ceased, which would seem to indicate that Turkey has found a better and cheaper substitute for that article.

Cotton-seed oil already appears to be the second largest article of imports from the United States to Turkey, and I have no doubt that when its use becomes more widely known, and the oil interests in America realize the advantages of canvassing a market hitherto neglected, its sale will be widely extended in this country, which presents the double possibility of being an olive-producing land and a Mohammedan nation with whom the use of lard in cooking is prohibited.

ASIATIC TURKEY.

OPPORTUNITIES FOR AMERICAN CAPITAL AND AMERICAN TRADE.

The following report is the result of personal investigations made by Consul-General Edward H. Ozmun, of Constantinople, during a tour, by rail, on horseback, and by wagon, through Asia Minor:

The province of Sivas and the eastern portion of Angora have as a port for their commerce the city of Samsun, on the Black Sea, about 375 miles east of Constantinople, and reached from the latter city by any one of three or four fairly good lines of steamships in about one and one-half days. This city of 25,000 inhabitants, about half of whom are Greeks and Armenians, is of considerable commercial importance, second only to Trebizond (60,000 inhabitants) among Turkish ports on the Black Sea, for it is the terminus of that ancient caravan route used to this day as the great line of communication from the Persian Gulf via Bagdad, Mosul, Diarbekir, Harput, and Sivas, just as Trebizond is the northern end of the great caravan route through Erzerum, Tabriz, Teheran, Ispahan, and other points in Persia.

Samsun lies in the heart of the great tobacco district of Asia Minor, and is the greatest of the three chief places (Smyrna and Kavala are the others) for the collection and shipment of this important article of commerce. The well-known Bafra tobacco is grown within a few miles west of Samsun. It vies with the Kavala and Xanthe tobaccos for first place. The American Tobacco Company has a large ware-

house here for storing and preparing its tobaccos for shipment, and employs many workmen.

The commercial importance of Samsun and the productivity of the surrounding country can better be realized by the following statement showing the exports therefrom during the fiscal year ended March 13, 1907, the quantities being given in pounds: Tobacco, 10,943,660, of which 3,471,380 went to Egypt, 2,645,067 to Austria, 1,694,543 to Germany, 1,635,041 to the United States, 796,950 to Italy, 400,334 to England, 359,306 to France, etc.; silk cocoons, 80,342, to Italy and France; barley, 1,655,252, of which 1,186,020 went to Germany; kidney beans, 1,989,779, of which 1,793,950 went to France; Indian corn, 2,791,745, of which 1,007,602 went to England, the balance to Germany, Italy, Austria, France, etc.; chick-peas, etc., 2,255,-289, of which 909,375 went to Russia, 533,546 to France, 366,115 to Germany, 259,182 to England, etc.; eggs, 12,243,221, of which 11,425,-124 went to France, 639,980 to Austria, etc. (the value of the egg export was $913,133); oats, 1,466,048, of which 848,377 went to England and 529,606 to Germany.

At Samsun the traveler must engage his wagon and driver, armed and mounted escort, if he decides to have such, and purchase his bedding, food, and such necessities as an overland journey of some weeks requires. The conveyance is called a Circassian wagon, with springs. It has a covering, but no seats. The bedding is put upon the floor of the wagon and the baggage at one's back. For a long journey this is more comfortable than a seat in the carriage. It is well to have an extra horse along, for a ride now and then breaks the monotony of a long day in a wagon.

CARAVAN ROUTE FROM SAMSUN.

The regions bordering on the Black Sea from the Bosphorus to the Russian frontier are the long narrow vilayets (provinces) of Kastamuni and Trebizond. They are covered with a range of high mountains, though not snow-capped in summer, which run parallel with the coast. The main road from Samsun—the old caravan route to Bagdad—at once ascends this range on leaving the Black Sea. On either side one sees wheat and corn fields and patches of tobacco. This is the region of the fabled Amazons, but the only vestiges one sees of them now are the patient, industrious women working in the field from early morning until sunset.

The highway was once well built and in places still is a good macadamized road, but much of it has gone out of repair. After ascending the mountain road about 5,000 feet a gradual descent of nearly half that distance is made to a broad plateau, flanked on north and south by ranges of mountains. Here the air is fresh, cool, and invigorating, though one should beware of being in the sun long. The soil is rich and in most places fairly well watered. The scenery is beautiful beyond description. These broad plateaus continue for hundreds of miles to the southward and constitute one of the richest farming districts in the world. It is almost virgin soil, because the crooked sticks which are still used for plows, as they were thousands of years ago, only that now the point is covered with steel, penetrate the ground hardly beyond 6 or 8 inches, so that all the earth below that, which with modern plows would be turned up, has never been used.

CULTIVATING, HARVESTING, AND MARKETING CROPS.

The crops are sown, cultivated, harvested, and thrashed in a most uneconomical way, and the produce is taken a long distance to market by the most expensive method known, viz, by camels, donkeys, buffalo carts, and horses and wagons. One caravan of 150 camels, carrying tobacco from Zela to Samsun, was stopped to learn the price of transportation. The chief driver stated that, as business was extremely dull, he had taken this cargo at an unusually cheap rate, almost half the price he usually got. His price was 5 cents per 20 pounds for a distance of about 50 miles.

The wheat is threshed in the most primitive way. A piece of hard ground is smoothed. On this dirt floor cleats are sunken between which sharp stones protrude; a stake is set up to which a long pole is attached, so that it may swing easily round the stake as a center. To the pole is hitched a buffalo; the ancient water buffalo is the kind still employed here. To the buffalo are hitched several sheaves of wheat upon which the driver sits, pressing down the sheaves, as they go round and round, upon the sharp stones protruding between the cleats. This laborious process takes much time, and great care must be taken to collect and save all the wheat scattered about on the floor. The marching of the buffalo over it necessitates that all wheat must be washed thoroughly before being ground, which is, of course, an added expense.

Notwithstanding these extraordinary conditions, the peasant raises flocks and herds, cultivates, besides his cereals, fruit and tobacco, pays his high taxes, and manages to get along.

With no further restrictions upon commerce and a possible rapid progress made by the people, there is probably no country in the world which offers such an extensive field for the sale of agricultural machinery as Turkey.

WHERE RAILWAYS SHOULD BE BUILT.

American capital could be employed in building a line of railway across these fertile plateaus from Samsun to Amasia (population 25,000), with a branch line to Marsivan (population 22,000), Chorum (28,000), and Angora (30,000), tapping a branch of the Bagdad line. Continuing, the main line should run from Amasia to Tokat (population 30,000), and Sivas (43,000), the capital of the province; thence to Harput, Diarbekir (population 34,000), and then, eventually, down the valley of the Tigris to Mosul (population 61,000), Tekrit, and Bagdad (population 145,000), thus making a complete line from the Black Sea, with but one change of freight (at Bagdad), to the Persian Gulf.

There should also be a branch line from Harput to Mush, Bitlis (population 38,000), and Van, and another from Diarbekir to Urfa, Aintab, and Alexandretta (population 15,000), which would cross the Bagdad Railway near Aleppo (population 200,000), with its north and south connections, and obtain, at the same time, an outlet to the sea, at which latter place only will there be found any engineering difficulties worthy of mention, and even here they are of no great consequence.

A Belgian syndicate some ten years ago obtained a concession for a line of railway from Samsun to Sivas, but it encountered opposition from rival interests and the line was never built. The present Gov-

ernment is anxious to develop the country and is willing to enter into reasonable undertakings to that effect. The American schools at Marsivan have educated a number of bright young men, mostly Greeks and Armenians, who speak English and who, knowing the local languages thoroughly, could be employed to great advantage in both the preliminary and later steps of such an enterprise. This whole region, i. e., Asia Minor, has a population of 17,683,500 and an area of 693,610 square miles. Many centuries ago parts of this territory were densely populated, and it not only supported its own people but fed a large portion of the world besides. It will be well able, under a Government which has already declared that it will make great efforts to assist agriculture, and with modern machinery, to prove itself to be one of the most prosperous districts known.

INDUSTRIES AT HERAKLI.

Industries exist in the interior which, as they find their trade entirely in small local commercial centers, are unknown in Constantinople or in the great world outside. In a small town called Herakli, near Marsivan, good ropes are made. On examination it was found that they were made entirely by hand, were of excellent quality, and that the industry had flourished there for two hundred years. Great quantities of hemp are grown in this locality, and as labor can not be said to be high, an unskilled laborer getting about 15 to 25 cents per day, the article is made cheap. If this manufacturer had modern machinery he could multiply his output many times, make his ropes at much less cost, and become a large exporter to more important and better markets. There is consequently an opening there for American-made rope machinery.

In this same general locality there are excellent bath towels made, equal to those made in Brusa, on the Sea of Marmora. They are made by hand and, as labor is very low, are, of course, very cheap. Machine-made towels of this sort could be made there very much cheaper and in greater quantities, and American-made looms might find ready sale there.

MUCH ACTIVITY AT AMASIA.

Historic Amasia lies directly on the great caravan route to Sivas and Bagdad, and is most picturesquely situated in a deep gorge of the mountains, through which the river Iris flows between the finest gardens of any city in the interior. It is justly celebrated for its superior fruit, and near it on the plateau is situated the only attempt which has ever been made in Asia Minor at an experimental farm equipped with modern machinery. Some Germans purchased this place about twelve years ago, to be used as an orphanage for Armenian children whose parents were killed in the massacres. This, not proving a success, was diverted into an experimental and practical farm which, the owner told me, was yielding gratifying results.

Amasia has an important silk industry which has been carried on for 150 years and which, strange to say, is almost unknown, save to a comparatively few dealers. There are only six places in Turkey whence cocoons are exported. They are Ada-Bazar, Amasia, Harput, Diarbekir, Malatia, and Karahissar. Amasia exports annually, on an average, about 330,000 pounds, Harput about 176,000 pounds,

and Diarbekir 99,000 pounds. No thread is exported from Amasia except that made from damaged cocoons (about 5 per cent are bad), and this is made into a cheap thread and exported. Only the best cocoons are exported from here.

This business did not flourish until about fifty years ago, when a German founded a German colony of five or six families in Amasia, started flour mills and undertook silk culture on a more scientific basis. One place visited experimented with only the largest cocoons. Here were a few hand looms which turned out excellent silk goods, some of which were embroidered. There are several manufacturers in Amasia and their goods are of fine quality, but because of the lack of modern machinery they are not cheap. The prices of labor (per day) were as follows: Girl for spinning, 5 cents; woman weaving, from 11 to 22 cents; man for bringing in mulberry branches, 22 cents; man for making thread, piecework, 44 to 66 cents.

REQUIREMENTS IN THE NEAR FUTURE.

Besides railways and agricultural machinery, there will soon be needed all over Turkey, in the larger towns, telephones, electric street railways, and electric lighting apparatus, for the prohibition heretofore existing against the entrance of such articles has already been removed. There will also be needed all kinds of tools for the building of houses and of roads, and the structural material for iron bridges. From present indications it is not difficult to imagine that almost all enterprises will show great activity in the near future; that labor will be extensively employed with profit both to the employer and employee; that manufactures will start up, mines be opened, timber cut down, and all the activities of a strenuous commercial nature, which we associate with a new country where there is great vitality and vigor, will begin here. Americans should not be behindhand to take advantage of these new opportunities, for others will not, as these newly awakened activities will develop great purchasing power for all kinds of goods, and Turkey, it must be remembered, manufactures almost nothing. It is even predicted that there will be a great rush here from many countries, as there was in South Africa when it was first opened. However that may be, it is safe to advise those who seriously desire to extend their trade in this country to send without much delay their commercial representatives to look the field over from their own standpoint, or in case of doubt, to make tentative efforts at once through the consular officers in getting particular information as to their trades and the addresses of agents to introduce their wares.

SMYRNA.

RENEWED EFFORT TO PROVIDE LOCAL BOARDS OF TRADE.

The Agricultural and Commercial Review, a Turkish paper published in Smyrna, makes comments on the commercial and industrial situation in Asia Minor which Consul-General Ernest L. Harris epitomizes as follows:

It throws on the chambers of commerce the responsibility of the little progress made in those directions by the country in general. According to a law passed some twenty-six years ago, a chamber of

commerce was to have been founded in each department and county. All districts, however, have not provided themselves with such an institution, and those having one do not, the newspaper states, benefit by it owing to lack of organization. In order that these institutions should effectively contribute to the development of commerce and industry it would be necessary, according to the Review, that their members be chosen among competent men and that they should be remunerated for their valuable assistance. An indemnity, for instance, could be paid to them for each sitting. These chambers of commerce should also include in their staff an agriculturist and a veterinary surgeon. A graduate of the School of Industrial Arts and the local agent of the Agricultural Bank would be appointed as president and vice-president.

A certain order of dependence would have to be established between the chambers of commerce of counties, departments, and provinces, these last to be in direct relation with the ministries of Commerce and Agriculture. The inscription in the registers of the chambers against a small fee would have to be compulsory for all merchants and manufacturers in the districts.

The Review further proposes various other measures regarding field keepers, horse stealing, etc., as well as the allotment of the excess funds of the chambers of commerce to the purchase of agricultural machinery and seed for poor farmers. It further recommends the foundation of model workshops and the publication of statistics and useful information pertaining to commerce and industry.

A VAST DEVELOPMENT PREDICTED BY A COMMERCIAL JOURNAL.

Recently the Near East, a paper devoted to the political and commercial interests of the Turkish Empire, contains the following interesting notes on the trade outlook in that country:

For many years past, firms endeavoring to do business in the Ottoman Empire have met with difficulties; the extension of their clientele has been accomplished only by slow degrees; the openings for the development of trade have not been numerous. It is now generally admitted that these drawbacks will disappear. It is no exaggeration to state that the amount of trade which is to be secured within the confines of the Ottoman Empire is gigantic. In spite of the country's wealth of material the bulk of the goods consumed are purchased abroad.

Among the articles which find a ready sale in Turkey are: Bicycles, jewelry, metals, nails, bedsteads, chains, safes, ironmongery, chemical products, patent medicines, perfumes, tools, engines of all descriptions, mining machinery, electrical appliances, rolling stock, rails, agricultural machines, rope, sawing machines, sanitary requisites, typewriting machines, candles, biscuits, hats, cigars, coals, guns, furniture, haberdashery, textiles, linoleum, waterproofs, pianolas, gramophones, soap, tooth paste, etc. For motor cars and wagons a rapidly increasing market is expected.

The quality of goods at present imported is nothing compared with what it will be in a short time, when the people, well endowed for the most part in a pecuniary sense, give full vent to their natural inclinations in the way of embarking on remunerative enterprises.

In the Ottoman Empire there is pressing need of innumerable public works which have but to be conducted efficiently to yield handsome revenues; openings for the construction of railways, tram lines, and electric lighting stations are numerous, while in the Ægean and Black seas harbors, quays, wharves, docks, etc., are badly wanted. The importance of Turkey as a commercial and industrial center can not be exaggerated. Its export trade is growing, and when the railways in course of construction and other means of communication are completed, it will increase by leaps and bounds.

BEIRUT.

TYPEWRITERS IN TURKEY—AMERICAN OPPORTUNITY.

Consul-General G. Bie Ravndal, of Beirut, reports that in a recent decree the provisions prohibiting the importation into Turkey of typewriters with Arabic, Armenian, or Turkish characters or lettering have been abolished. Mr. Ravndal therefore offers the following advice:

The restriction referred to having been removed, it is now hoped that American manufacturers of typewriters will bestir themselves so as to gain a foothold in these virgin markets in time. Arabic is the language of Syria, Mesopotamia, Arabia, and Palestine (as well as of Egypt and parts of India). Agencies for the sale of Arabic typewriters should be established in Beirut, Aleppo, Bagdad, Damascus, and Jerusalem. [The names of firms who may be addressed in seeking this trade may be obtained from the Bureau of Manufactures.]

TREBIZOND.

DEVELOPMENT OF COUNTRY WILL CALL FOR EXTENSIVE SUPPLIES.

Consul Milo A. Jewett, of Trebizond, states that the promulgation of constitutional government, on July 24, 1908, in the Ottoman Empire, promises great potential possibilities of commercial development, some of which he outlines:

A practically undeveloped country will invite and attract foreign enterprise, capital, and commerce. American capitalists, manufacturers, and merchants should keep their eyes on this country and prepare to share in the work of developing this new field of enterprise as soon as local conditions are favorable.

Asiatic Turkey is ten times the size of New England and about as densely populated as Minnesota. The Turks are a sturdy, hard-working people. It is essentially an agricultural country, possessing some of the most fertile lands in the world, but agriculture is carried on in a most primitive manner. With progress along these lines, agricultural implements and machines will be demanded. To open this country to commerce and enable agricultural products to find profitable markets, roads and railways must be built. There are but few made roads at present in Asia Minor. Thousands of bridges are needed. In all Asiatic Turkey there are only about 2,000 miles of railways and in the eastern half of Asia Minor there are no railways at all. Most of the harbors, docks, wharves, warehouses, etc., are yet to be built.

UNEMPLOYED WATER POWER.

The water power of this country, with its great rivers, the Tigris and the Euphrates, and many lesser ones, is immense and as yet practically unemployed. Asia Minor is a country rich in minerals. Gold, silver, copper, iron, coal, petroleum, and almost every other form of mineral wealth is here waiting for capital and modern enterprise to exploit it.

There are practically no manufactures or machines of any sort in this country. The people have been supplying most of their simple wants and needs with the rude products of their own domestic indus-

tries. With progress there will be developed a growing demand for all sorts of manufactured articles, and machinery will be introduced for local factories. There will be street railways to build, public waterworks, irrigation systems, and sewage systems to be constructed, gas and electric lighting plants and all sorts of buildings and equipments which must look to foreign aid and supplies for their realization.

No country in the world presents such rich, undeveloped possibilities for business enterprise as Asia Minor and the moment the present plans of the government are realized this country will be an unequaled field for American enterprise.

OPENINGS FOR PRINTING PRESSES, SAFES, CHEMICALS, MACHINERY, ETC.

Many articles which were not permitted to enter the Ottoman Empire, or which were only entered with great difficulty, may now be freely imported into Turkey. The press is now free, and type, printing presses, and all materials for printing may be freely imported by any one. Newspapers are starting up all over the land. Duplicating machines, mineographs, etc., may enter freely. Typewriters, including machines which write the Arabic or Turkish characters, are no longer forbidden. There ought to be a demand soon for these machines. Formerly the importation of safes required a certificate legalized by the Turkish consul in the country of origin, showing that the safe contained no explosives. Now no such certificate is required. Electrical goods were for a long time absolutely excluded, and in recent years entered with difficulty and under restrictions. Now they may be imported without restriction. Turkey becomes a new field of enterprise, which American manufacturers of electrical machines and appliances should look into. In this consular district, in view of the fact that the people in general are too poor to pay for luxuries and capital is too scarce to build costly plants, there will be little demand for such things as public electric lighting plants or trolley cars, but a few private lighting plants, private telephones, automobiles, and motors with electrical ignition, medical batteries, electrical toys, etc., may be demanded.

There was formerly serious difficulty in importing all chemicals which might be used in the manufacture of explosives, such as chlorate of potash, nitrate of potash, and glycerin, but now they may be imported freely. Firearms and ammunition were excluded, and the sale of firearms was a contraband business. But under the new régime the restrictions have been removed, and the importation and sale of revolvers, sporting guns, and cartridges is now free.

In general the removal of former custom-house restrictions should greatly facilitate and increase the foreign commerce of Turkey.

TRANSPORTATION.

FOREIGN RAILWAY PROGRESS.

CHILE.

CONSTRUCTION OF NEW LINES ABOUT TO BE UNDERTAKEN.

The following comprehensive information concerning Government railway construction about to be undertaken in Chile was furnished by the minister of industry and public works to Consul Alfred A. Winslow, of Valparaiso, who says that it should have special interest for American exporters of railway supplies and material:

As will be seen by the following table, there is an opening in Chile for a large amount of construction material, as there are 103 steel bridges to be built and 17 tunnels to be dug, to say nothing of rails and rolling stock. All this material must be imported, as nothing in these lines is produced in the country.

Up to the present England and Germany have supplied the greater portion of this class of imports, but the business should go to the United States, and it would if a strong effort were made for it.

The following statement shows the government railways about to be constructed in Chile, their gage, mileage, metal bridges, tunnels, and estimated cost:

Railways.	Gage.	Length of lines.	Bridges, metal.	Tunnels.	Estimated cost.
	Feet.	*Miles.*	*No.*	*No.*	
Pueblo Hundido to Curillas	3.3⅜	258.8	.....	.....	$3,809,910
Papudo to Quimquimo	3.3⅜	11.5	3	.....	427,078
Cabildo	3.3⅜	61.9	16	3	
Illapel to San Marcos	3.3⅜	58.5	29	2	21,900,000
Serena to Vallenar, and Vallenar to Toledo and Copiapo	3.3⅜	245.6	21	4	
Rancagua to Donihue	3.3⅜	13.1	4	1	277,611
San Vicente to Peralillo	5.6	24.6	10	.....	1,158,793
Alcomes to Pichilemu	5.6	17.5	1	5	2,343,627
Curico to Hualañe	5.6	40.5	5	1	1,457,500
Hualañe to Ilico	5.6	31.8	5	.....	3,914,910
San Vicente to Colorado and Queri	3.3⅜	17.0	1	.....	333,462
Linares to Calbun	.....	20.8	8	.....	268,616
Castro	.....	50.7	.....	1	1,332,250
Total	.....	852.3	103	17	37,223,757

LENGTH OF BRIDGES AND TUNNELS.

The length of the metal bridges on the several lines are given as follows, in feet: Papudo to Quimquimo (3), 49.5, 49.5, and 99; Cabildo (16), two of 33, four of 99, two of 132, and one each of 149, 198, 297, 330, 594, 792, and 1,122; Illapel to San Marcos (29), two of 50, four of 66, five of 83, three of 99, three of 132, two of 231, and one each of 33, 106, 158, 198, 263, 264, 363, 396, 412, 495, and 1,155; Serena to Vallenar, etc. (21), seven of 33, four of 50, two of 66, two of 198, one each of 237, 264, 297, and 330, and two of 660; Rancagua to Doni-

hue (4), 17, 33, 40, and 99; San Vicente to Pichilemu (10), three of 33, one each of 50, 53, 73, 112, 142, 432, and 505; Alcon to Pichilemu (1) 99; Curico to Hualañe (5), 99, 205, 205, 119, and 2,178; Hualañe to Ilico (5), 25, 40, 66, 205, and 716; San Vicente to Colorado, etc. (1), 33, and smaller ones; Linares to Colbun (8), 33 and three smaller ones, 66, 66, 99, and 330.

The length of the tunnels on the several lines are as follows, in feet: The Cabildo line (3), 2,475, 2,920, and 4,191; Illapel to San Marcos (2), 297 and 6,930; Serena to Vallenar, etc., four small tunnels; San Vicente to Peralillo (1) 2,005; Alcones to Pichilemu (5), 314, 429, 528, 627, and 726; Curico to Hualañe (1), 792; Castro (1), 858.

RAILWAYS IN OPERATION, UNDER CONSTRUCTION, AND PROJECTED.

The estimated cost of the Government railways under construction, and for which contracts are about to be let, reaches $65,627,000 gold. It is intended that all these lines shall be completed within the next five years. To this must be added many millions for rolling stock during that time, which means that the investments for railway improvements during the next five years will come up well toward $100,000,000. Here is a great opening for American capital and material.

According to a statement just made public by the Chilean Government, the termini and mileage of State railways of this country are clearly set forth in the following tables:

RAILWAYS IN OPERATION.

From and to—	Miles.	From and to—	Miles.
Coquimbo to Puntilla	57	Chañaral to Pueblo Hundido	7
Valparaiso to Osorno	788	Empalme to Inca de Ocoa	33
Las Vegas to Los Andes	30	De Carpa Y to Las Animas	13
Santiago to Melippilla	38	Huasco to Vallenar	30
Pelequen to Las Cabras	17	Coquimbo to Rivadavia	58
Centinela to Alcones	51	Ovalle to Las Palmas	42
Parral to Cauquenes	30	Vilos to Choapa	36
San Rosendo to Talcahuano	53	Cabildo to Calora	45
Santa Fe to Los Angeles	13	Talca to San Clemente	12
Coigue to Mulchen	26	Talca to Constitucion	56
Renaico to Traiguen	58		
Tomuco to New Imperial	24	Total (gage 3 feet 3.36 inches)	332
Antilhue to Valdivia	18		
Miscellaneous small lines	14	Tongoy to Trapicho (gage 3 feet 6 inches)	40
Total (gage 5 feet 6 inches)	1,217	Total in operation	1,589

RAILWAYS UNDER CONSTRUCTION.

The following statement shows the railways now being constructed:

From and to—	Miles.	From and to—	Miles.
Melipilla to San Antonio	32	Inca to Chulo	55
Alcones to Tunel del Arbol	8	Ovalle to Trapiche	9
Rucapequen to Confluencia	11	Palermo to San Marcos	25
Pua to Selva Oscura	12	Chopa to Illapel	12
Nueva Imperial to Carahue	14	Choapa to Salamanca	17
Osorno to Puerto Montt	78	Rayado to Trapiche	16
All other	6		
		Total (gage 3 feet 3.36 inches)	405
Total (gage 5 feet 6 inches)	161	Puerto Alto to Volcan (gage 2 feet 3.6 inches)	46
Arica to La Paz	259		
Animas to Los Pozos	12	Total being constructed	612

PROJECTED RAILWAYS.

The following statement shows the railways projected and the condition of advancement:

From and to—	Miles.
Plans already made:	
Vallenar to Viscachitas	29
Rayado to Papudo	15
Quilpue to Melipilla	59
Curico to Hualañe	23
Rancagua to Donihue	13
Sauces to San Antonio	22
Linares to Colbun	20
Selva Oscura to Curacautin	17
San Clemente to Colorado	12
Total	210
Plans in course of preparation:	
Pueblo Hundido to Pampa Central	286
Serena to Rivadavia	18
San Vicente to Perallillo	24
Tunel del Arbol to Pichilemu	17
Confluencia to Tome	46
Total	391
Projected:	
Pampa Alto to Toco	70
Pueblo Hundido to Juncal	57
Copiapo to Vallenar	107
Cabildo to Choapa	78
Trapiche to Vilos	59
Projected—Continued.	
Rivadavia to Monte Grande	11
Tolon to Viscachitas	132
Cauquenes to Mar	60
Illapel to San Marcos	79
Talagante to Paine	15
Curico to Queñes	27
Santiago to Casablanca	46
Batuco to Yungai	22
Yumbel to Rio Claro	8
Chillan to Las Termas	63
Angeles to Antuco	54
Victoria to Traiguen	6
Loncoche to Villarica	27
Union to Rio Bueno	7
Total	928
Under consideration:	
Sauce to Lebu	29
Artificio to Chincolco	21
Tome to Penco	11
Vina del Mar to Cocon	12
Total	73
Total projected	1,602

ROLLING STOCK.

During the year 1907 and the first six months of 1908 the Chilean Government received the following rolling stock for the State railways, at a total cost of $2,873,979:

Description.	1907.	First six months of 1908.
	Number.	*Number.*
Locomotives	29	60
First-class coaches	60	.....
Third-class cars	.....	30
Baggage cars	10	10
Box cars	130	24
Flat cars	113	127
Cattle cars	200	9
Refrigerators	20	.....
Ballast cars	80	.....
Storage cars	.....	11
Ambulance, and a dining car	.....	2

Twenty-five of the locomotives and the 60 first-class passenger coaches were furnished by American manufacturers, but most of the freight cars by Belgian parties. An English firm lately secured a contract for 125 locomotives, to be delivered as early as possible.

BRAZIL.

GREAT ACTIVITY IN CONSTRUCTION—A TAX ON EACH TICKET SOLD.

In answer to inquiri[illegible] from the United States, Consul-General George E. Ande[illegible] su[illegible] the following information concerning the railw[illegible]ys of [illegible]il

Inform[illegible] i[illegible] f[illegible]neral commercial use or fo[illegible] [illegible] the large amount

of railway building now going on, compared with the total Brazilian mileage, the changes in figures due to such construction, and also because Brazilian standards of railway returns differ in some important respects from American standards. A large portion of the railways of the country are owned by the Federal Government of Brazil or by the several State governments, with more or less ultimate control on the part of the former. Of the privately owned lines, most companies receive some financial support and assistance from the Government, either in the way of original grants or by guaranties of interest returns, and therefore are more or less under control of the Government, Federal and State, and have certain service to render in return, either in the development of the country or otherwise. Thus figures given as the cost of operation may not include items considered indispensable in other countries.

For example, there is a tax charged upon each railway ticket sold in Brazil, which figures in the amount of money collected by railways for transportation but does not enter into receipts and expenditures, as a rule, but in many cases takes the place of other taxation of railway properties. The guaranties of State and Federal Governments of interest returns on investments in certain railways naturally is based upon special needs of the district, which may or may not lead to aggressive railroading but, as a rule, are based upon special services rather than upon independent business.

The figures which follow, covering the railway business of Brazil, are submitted, therefore, with the limitations indicated. Some of them, such as the estimated total mileage, are from the official returns covering the year 1907, but in general such late figures could not be obtained.

RAILWAY MILEAGE, RECEIPTS, AND EXPENDITURES.

The total railway mileage of Brazil is divided as follows, extensions made to date included, the figures being given in miles:

Government owned: Central of Brazil, 1,050; Great Western, 887; Bahia to San Francisco, 357; Baturite, 187; Sobral, 134; Central of Bahia, 197; San Francisco Railroad Company, 281; Minas and Rio, 106; Western Minas, 723; Parana, 259; Porte Alegre and Uruguayana, 362; Santa Maria to Passo Fundo, 220; Rio Grande to Bage, 176. Total, 4,939.

Private concessions: Leopoldino Railroad Company, 1,539; Santos to Jundichy, 86; Paulista Railroad Company, 636; Brazil Railroad Company, 1,372; Mogyana Railroad Company, 873; Sapucahy, 333; Northwest Railroad Company, 183; miscellaneous, 1,243. Total, 6,265.

Of private roads working under concessions from Federal and State governments, about 2,200 miles are operated under a guaranty of 6 per cent earnings by the Federal Government.

The total mileage of Brazilian railways is divided as follows, according to four divisions, by States: Rio de Janeiro, Espirito Santo, Minas Geraes, and São Paulo, 7,207 miles; Alagoes, Pernambuco, Bahia, and Parahyba, 1,940 miles; Rio Grande do Sul, Parana, and Santa Catharina, 1,560 miles; Maranhão, Ceara, and Para, 497 miles. Total, 11,204 miles.

The latest available figures complete for the more important roads in operation are for the year 1905 and are as follows, which

do not cover 1,200 miles operated by corporations under Government guarantee:

Items.	Government owned.	Private concessions.
Mileage	4,571	3,522
Receipts	$15,908,179	$13,712,228
Expenditures	$13,009,527	$9,486,155
Surplus	$3,363,424	$5,394,513
Deficit	$465,085	$463,124
Mile tons	346,055,918	181,316,758

As above indicated, of the 23 Government-owned railways 15 showed a surplus and 8 a deficit, and of the 24 controlled by private corporations 10 showed a surplus and 14 a deficit.

EARNINGS OF A STANDARD RAILWAY.

Taking the Leopoldina Railway as the standard of privately owned railways in the country, as is generally done by experienced investors here, some figures can be secured upon which an idea of the actual state of the railways of Brazil as transportation and investment propositions can be based. According to the annual report of the Leopoldina Company, just at hand, the company operated in 1907 a total of from 1,423 to 1,489 miles, the increase being due to the purchase of two small State-owned railways.

The gross earnings of the company amounted to $6,084,601 and the operating expenses to $4,056,748, leaving a balance of net earnings of $2,027,853. The actual net receipts of the company were increased by the addition from Federal Government guaranties and from interest on bonds given by the State of Minas to the amount of $118,776, making the total amount available for dividends and other division $2,146,629. From this amount the company paid 5½ per cent interest on certain preferred shares and 4½ per cent on its ordinary shares, allowing a considerable sum for permanent improvements of the road, for repairing extraordinary damage due to floods, and, in short, in keeping the property up to a satisfactory standard.

The total number of passengers carried during the year was 2,876,-355, an increase of 15.92 per cent over the previous year. The amount of baggage carried was 26,456 tons, an increase of 4,441 tons over the previous year, the earnings from such baggage (all baggage is paid for on Brazilian railways) being $255,755. This item also includes earnings from the carriage of parcels, on the same order as the express business in the United States.

The freight carried amounted to 585,115 tons, an increase of 56,373 tons over the previous year. The earnings from freight amounted to $4,759,824, as compared with $958,767 earnings from passenger traffic. The public train miles were 2,122,599. The receipts per train mile were $2.93, and the expenses per train mile were $1.95. The sum of $956,260 was expended upon maintenance of way—almost exactly the earnings from carrying passengers—but some of this work was extraordinary in nature and due to damage from floods. The telegraph service was maintained at a cost of $16,616. The service of passenger boats and freight barges on the bay was maintained at a cost of $131,789, and the service of trains cost $867,888.

The railways of Brazil vary greatly in equipment. As a result of its peculiar relation to the immense coffee traffic of the State of São

Paulo and of its contract with the São Paulo State government, represented by its original concession, the railway generally known as the Santos-São Paulo has as fine an equipment as any railway in the world. The principal Government roads have good locomotives and a fair amount of good rolling stock. The passenger coaches of many lines could be better, as well as the manner in which they are arranged in trains.

A sleeping-car service, with modified American sleeping cars, is maintained over the Government railways on routes running twelve hours out of Rio de Janeiro in each direction. The gradual extension of the standard-gauge tracks is improving the service generally. The larger portion of the railway mileage of Brazil is still narrow gauge.

Comparatively little is done in Brazil in the way of construction of rolling stock, but the disposition of railroad owners, Government and otherwise, is growing more and more strongly in favor of local manufacture.

UNITED KINGDOM.

RAILWAY ACCIDENTS AND THE CAUSES THEREOF.

The following report concerning railway accidents in the United Kingdom is furnished by Consul Joseph G. Stephens, of Plymouth:

Serious railway accidents are of rare occurrence in the United Kingdom, and when they do happen such genuine and thorough official inquiries are held as are best likely to prevent their repetition from the same causes. During the thirty years ended in 1906 only one passenger was killed on the railways of the United Kingdom in every 40,300,000 journeys, while one was injured in every 2,300,000. In 1907 the figures were one killed in every 70,000,000 and one injured in every 2,300,000.

Other interesting statistics with regard to the risks of railway travel are given in the report of the railway department of the Board of Trade. The total number of passengers and railway employees killed last year was 1,117 and the number injured 8,811, while in the ten previous years there was an average of 1,160 killed and 6,765 injured. The increase among the injured was mainly among railway employees. The average number of fatalities to passengers during the thirty years previous to 1907 was nearly 22. These and other figures quoted for the period take no account of the journeys of season-ticket holders, and therefore they slightly exaggerate the actual risk, as this class of passengers has materially increased in recent years. The number of passengers killed in train accidents last year was 18, of whom 11 were accounted for in the one disaster at Shrewsbury, while 13 railway employees were killed and 236 injured.

CASES OF ACCIDENTS TO PASSENGERS AND EMPLOYEES.

Casualties to passengers during the movement of trains, apart from railway accidents, are of course much more numerous, a fact due largely to the carelessness of the passengers themselves. The number injured last year in this manner was 2,132 and the number killed 102, the average for the previous ten years being 1,702 injured and 121 killed. The apparently large increase in the number of non-fatal accidents to railway employees, apart from train accidents, is

to be accounted for by a new order of the Board of Trade which now requires information of such casualties whenever they are of a character to cause the injured person to remain away from his ordinary work for a whole day. Moreover, between 1904 and 1907 the number of railway employees has increased by about 40,000. The actual killed last year was 441 and injured 5,577, while the average in the previous ten years was 452 killed and 3,972 injured.

The value of automatic couplings is proved by the fact that of the 18 railway employees killed and of the 757 injured, in coupling accidents, only one was killed and one injured in a case in which the cars had automatic couplings.

The nature of the accidents in which the 102 passengers were killed, apart from train accidents, was as follows: Six fell on the track or station platform and 27 between the train and platform in entering or leaving. Twelve were killed by being struck or run over after falling off platforms, 10 met their death through crossing the tracks at stations, 31 fell out of carriages while the trains were running, owing almost entirely to the way in which English passenger coaches are built, and 16 were killed in other accidents. Fifty persons were killed last year and 30 injured while passing over level crossings, although these are all carefully watched and guarded by employees of the company. The number of trespassers killed was 447, including suicides, and 133 were injured.

When it is remembered that there are 23,101 miles of railways in the United Kingdom, and that the total track mileage of single lines is 39,008 without sidings and 53,156 with sidings, and that the passenger traffic is enormous, it is to be seen that the dangers arising from railway traveling in the United Kingdom are indeed slight.

CHINA.

WORK BEGUN ON THE TIENTSIN-PUKOW RAILWAY.

The following information concerning the railway to unite Tientsin with Nanking, work on which was begun with attendant ceremonies at Hsiku, a suburb of Tientsin, on June 30, is furnished by Consul-General E. T. Williams, of the latter place:

This enterprise is undertaken in accordance with an agreement signed at Peking on January 13, 1908, the parties thereto being the Chinese Imperial Government, on the one side, and the Deutsche-Asiatische Bank of Shanghai and the Chinese Central Railway, a British corporation, on the other.

It is expected that the entire line will be open for traffic within four years. This will be one of the most important trunk lines in China, providing the connecting link between the railways of the north and those in the south. It will pass practically through the same region as that served by the Grand Canal. It is more than 600 years since the Grand Canal was completed by the Mongol Emperor, Kublai Khan. What was rightly regarded as a work of great importance, providing, as it did, an interior line of water communication between Hangchow and Peking. For centuries it served as the main artery of commerce between the north and south, and the grain and silks sent to the imperial court in tribute by the rich provinces of southeastern

China were carried over its waters. Most of this transport in recent years, however, has been done by steamships going by sea. The canal has not lost its usefulness, but the section through Shantung has never been an unqualified success, and is in need of repair now.

ROUTE OF THE NEW RAILWAY.

The Tientsin-Pukow Railway is to be divided into two sections, the northern to be constructed with German capital, the southern with British and a moiety of French capital. The line will follow the course of the Grand Canal from Tientsin to Techou, on the border of Shantung Province, the course being a little west of south. From Techou it will go southeast to Tsinan, the capital of Shantung, crossing the Yellow River near that city. From Tsinan it will run, in a southerly direction, through the mountainous region of Shantung, to Ihsien, near the southern border of that province, where the northern and southern sections unite. It will probably pass through Tai-an in Shantung, not far from Mount T'ai, the sacred mountain of China, and the home and tomb of Confucius.

The southern section will pass from Ihsien, southwest, to Suchau, in northern Kiangsu Province, crossing the Grand Canal about midway between the two cities. Suchau is in the bed of the old Yellow River, a low-lying region of lakes and streams, but a very fertile country, and the source of a variety of opium highly prized by the smoker. From Suchau the line will run southwest to Suh, in Anhui Province, thence a little east of south to Fungyang, crossing the Huai River just north of that city. From Fungyang it will follow, in a general way, the old highway, built by the founder of the Ming dynasty, from Nanking to K'aifeng, but diverging a little to the west to pass from Fungyang through Tingyuen to Chuchou. This highway has, from very ancient times, been the route taken by caravan traffic between Nanking and northwest China. Pukou, the southern terminus, is a small town opposite Nanking, at one time on the north bank of the river Yangtze, but now some two miles inland, the intervening ground being a reed marsh formed by the deposits of the river.

The region traversed by the Tientsin-Pukow line is not one of the richest in China, but there are many fertile districts, and the mountainous region at Shantung doubtless contains mineral deposits of value. Agriculture, mining, and manufacturing will all be stimulated when cheap and rapid transportation is substituted for the slow and expensive methods now employed, but the chief value of the line will be, perhaps, its usefulness for through communication between the capital and the wealthy and populous regions of Central China, devoted to rice growing, sericulture, and manufacturing.

INAUGURATION CEREMONIES.

A clipping from the Peking and Tientsin Times, furnishing an account of the ceremonies attending the inauguration of the enterprise, accompanied Consul-General Williams's report, wherein it is stated that all the leading foreign residents of North China, some 600, official, civil, and military, were present, and that the American consul-general, as senior consul, returned thanks for the foreign

guests in a happily worded speech. As noting the great change which has taken place in Chinese feeling in regard to railways, the following extract from the speech of Director-General Lu is significant:

Though the funds for the construction of the Tientsin-Pukow Railway are borrowed from Germany and England, the construction and control of the road are entirely vested in the Imperial China Government. By availing ourselves of the good part achieved by the various railways in China and utilizing the good methods now in operation in the different foreign countries, we expect that we shall make a perfectly good railway.

I therefore conclude by wishing every success to our work and speed to our employees in their undertakings; that we may complete work in due time and that our trade may grow day by day by the facilitated communication and transportation between the north and south. I wish also that the railways in the various provinces of this Empire will be greatly extended, so that they may be connected with each other, and then we can make them as the basis upon which to erect the wealth and power of our country, and then we may walk hand in hand with the powers. I consider this the greatest blessing both for China and other countries, and I sincerely hope that the time will soon come.

SHANTUNG PROVINCE DEVELOPMENT.

RICH CHINESE REGION TO BE TAPPED BY RAILROAD FROM CHEFOO.

Vice-Consul Ernest Vollmer, of Tsingtau, has prepared the following information about a new and prosperous district of the Chinese Province of Shantung, which is to be opened up to commerce by the building of a railway line, the article being largely based on facts furnished by an agent of a tobacco company who travels throughout the Province:

During the past few months there has again been a great deal of talk throughout the Province of Shantung regarding the proposed Chefoo-Weihsien Railway. This plan was generally thought to be dead for the present, but it seems the rich Chefoo and Hwanghsien merchants have been working at it all the time, and the statements are now made on good authority that there is enough money on hand to build the line from Chefoo to Hwanghsien, thus at least starting the enterprise.

The available funds are said to aggregate 4,000,000 taels (present value of tael 65.5 cents gold), all of which has been subscribed by Chinese of the Province, there being no foreign capital in the enterprise. As soon as permission comes from Peking, work is to be started from Chefoo, the money being sufficient to take the line through the hilly country as far as Hwanghsien, by the present trade routes about 180 li, or 60 miles distant. Preliminary surveys have all been made; the country presents no engineering difficulties, such as rivers, and the Chinese will probably be able to build the road themselves.

With the probability that Hwanghsien will soon be accessible to foreign trade, it is naturally interesting to gain some idea of the district. Commercially, the city is said to be one of the richest in Shantung. It has a population of some 80,000 people, many of the rich merchants being men who made their money in Manchuria in Russian times and have now settled there. These men, who run the place, are acquainted with foreigners and foreign methods and are very progressive. A large grain business is carried on with the rest of the

Province and the north, shipments coming and going by junk, mainly to Dalny and Yinkow (Newchwang), over the port of Lunkou, some 15 miles distant on the Gulf of Pechili. Lunkou is an unimproved harbor with only a native customs establishment. It can easily be reached by a branch road from Hwanghsien, and with a maritime customs establishment and the railway would soon gain considerable importance.

A RESOURCEFUL COUNTRY.

Commercially Hwanghsien has important trade, aside from the grain business already mentioned, in silk, vermicelli, native sundries, piece goods, and the cheap foreign sundries which generally find a sale among the Chinese. American cottons, kerosene oil, and tobacco are represented on its markets, and it is reported that one firm was found sewing native stockings with three American sewing machines and making good profits. Some gold is reported to the south at a place called Chaoyuan. Agriculturally the region is rich also, land being valued at, roughly, 100 taels ($65) per mou (⅓ acre), more than elsewhere in the province. Much of the good economic condition of the region is ascribed to the fact that the country does not suffer from so much overpopulation as other districts. All sorts of fruit is grown, as well as millet, wheat, sorghum, beans, and peanuts. The latter crop is being planted more and more, oil from the nuts giving a good profit. The sandy soil of much of the country tends to produce large crops, the oil being exported in native-made baskets.

In foreign commerce the region is mainly noted for its straw braid, being the northern end of the well-known Laichowfu district. Formerly all this braid went to Chefoo, but, except from the immediate region about Hwanghsien, it now goes overland via Changyi, Laichow, and Shaho to Changling, on the Shantung Railway, and thence to Tsingtau.

EXTENSION OF LINE AND CITIES EN ROUTE.

The ultimate plan of the Chefoo and Hwanghsien men is to continue their railway to Weihsien, midway between Tsingtau and Tsinanfu, on the Shantung Railway, and thus to regain the straw-braid trade which has been lost to Tsingtau.

The engineering difficulties are merely nominal. When completed, this line would pass through several important places, among them Changyi, which has straw braid, silk, soapstone, and some very fine granite. Next would come Laichowfu, a city of some 30,000 inhabitants, the governmental headquarters of the district, but by no means the important commercial place it was formerly. Shaho, an enterprising, up-to-date place, would also be on the line. This place is noted for its straw braid and silk, and, usually having good crops, has a rich rural population. The whole country traversed is well stocked with good cattle and unusually fine mules. Mule carts form the most common means of travel, the wealth of the people enabling them to pay for this transportation in preference to the cheaper means in vogue elsewhere. The mules are a large-breed variety and sell from $200 to $300 each. In short, the proposed railway will pass one of the richest parts of Shantung, with a large native trade, and should be an assured success.

NANKING CITY RAILWAY.

OPENING OF NEW LINE IN IMPORTANT CHINESE CENTER.

Consul J. C. McNally reports that the Nanking City Railway was formally opened to traffic on August 26, its extent being as follows:

The line in operation comprises the first section only, being 3 miles in length. Work is being pushed on the latter part, which, when completed, will have direct communication between the Shanghai-Nanking Railway and the Viceroy's Yamen, a distance of about 6 miles.

The road is of standard gage, passenger locomotives being employed to haul a train of three coaches between the places mentioned. First, second, and third class passenger coaches are in use, and the fares for the whole distance will be approximately 30, 15, and 7½ cents gold, with proportionate reductions for intermediate distances. As an evidence of changed conditions, the 2,000 rikisha and carriage coolies, although partially deprived of a means of livelihood, peaceably accept the improved conditions, although the local authorities apprehended some hostile demonstration.

RUSSIA.

STATISTICS OF RAILWAYS—FARES AND CONSTRUCTION.

Consul James W. Ragsdale, of St. Petersburg, forwards statistics to provide correct information with regard to the railways in Russia. The figures are for the year 1905, the records of later years being unattainable. All the maps and statistics referred to by the consul in the following report may be seen at the Bureau of Manufactures:

The tables give complete facts with reference to the amount of rolling stock, capitalization, financial condition, total gross earnings per verst, consumption and kinds of fuel used, the number of passengers carried, as well as the tonnage of freight handled by each road, whether of private or government ownership. A table of comparison with the railways of America, Europe, and the Far East is included. The maps show the locations of all the railways in Russia and Siberia, the lines noting whether of single or double track and of what ownership. It will be noted that the entire length of all the roads in Russia aggregates 66,759 kilometers, or 41,482 English miles; that the average cost of construction was 69,109 rubles per kilometer, $42,962 per mile; that there is in Russia proper nine-tenths of a kilometer of railway for each 100 square kilometers of surface and 4.8 kilometers for every 10,000 of population, while in Siberia there is but 0.29 of a kilometer of road for each 100 square kilometers of surface and 9.6 kilometers for every 10,000 inhabitants.

The rates for passage are computed in a peculiar way. For distances from 1 to 300 versts (verst=0.66 of a mile) the calculation is made in versts as follows: From 1 to 160 versts the charge is 1.4375 kopecks per passenger and verst, or 2.3 rubles. From 161 to 300 versts nine-tenths of a kopeck is added, making the cost 3.56 rubles for the 300 versts. Beginning with 301 versts the calculation is made

not per verst but by zones (an arbitrary term), counting part of a zone as a whole zone, as follows:

First, for distances up to and including 3,010 versts: For the first zone, from 301 to 325 versts, inclusive, there is added to the payment for 300 versts per passenger 24 kopecks. For each following zone 20 kopecks are added. The extent of these zones in the distance from 301 to 3,010 versts, inclusive, being as follows:

Versts.	Zones.	Versts in each.	Versts.	Zones.	Versts in each.
[illegible]	[illegible]	25	[illegible]	13	40
[illegible]	[illegible]	30	[illegible]	30	50
[illegible]	[illegible]	35			

Second, for distances greater than 3,010 versts there is added to the payment for 3,010 (16.8 rubles) 40 kopecks per passenger for each zone, the extent of the zones for distances greater than 3,010 versts being 70 versts to the zone. This is for third-class passengers. For second class the fares are one and a half times greater than the third class, while the first class are two and a half times greater. Children from 5 to 10 years of age pay one-fourth the fare for adults in either class. Each adult passenger, either class, is allowed 1 pood (36 pounds) of baggage, and one-half that amount for each child. (From July 1, 1908, the foregoing fares have been increased 10 per cent for third-class, 20 per cent for second-class, and 30 per cent for first-class passengers.)

On October 1, 1907, there were 2,358 versts of railway under construction, not included in the tables given, while permits had been granted for the construction of 1,737 versts more.

MEXICO.

FURTHER EXTENSION OF FEDERAL RAILWAYS AND MARINE INTERESTS.

The American embassy at Mexico City forwards the following newspaper abstracts from the recent message of President Diaz to the Mexican Congress:

The additions to the network of railways under federal jurisdiction since April have been 423 kilometers (kilometer = 0.62 mile). The largest contributions to this increase have been furnished by the railway from Navajoa to Guadalajara, which has just opened for traffic its first section, viz, that from Navajoa to Culiacan, and by the Pan-American Railway, which has completed its main line from San Geronimo to the Guatemalan border, and has also opened it for traffic, so that there is now a complete system of railways stretching from our northern to our southern boundaries.

The kilometrage of federal railways is at present 18,809 kilometers, and adding the lines subject to the jurisdiction of the States, whose aggregate length is 4,840 kilometers, we get a grand total of 23,649 kilometers.

A road has been completed from Chiapa de Corzo to the frontier of Guatemala, and a suspension bridge has been constructed over the Grijalva River.

The changes made by the British Government in the International Code of Signals have been communicated to the captains of vessels and other persons interested.

Without contravening existing legislation, an endeavor has been made to remove difficulties in the way of the registration of vessels under the Mexican flag. At the present time the vessels registered at the different ports of the Republic represent a total approximate tonnage of 48,500 tons.

An increase in maritime traffic has been noticed both at our Gulf and Pacific ports, especially at Guaymas, Salina Cruz, and Coatzacoalcos.

The inner lighting of the port of Coatzacoalcos has been completed, as have the dwellings and towers in connection with the light-houses at Tupilco, Isla Aguada, and Punta Celarain. A house for the light-house guard at Xicalango has been erected.

CANADA.

EXTENSION OF QUEBEC CENTRAL RAILWAY.

Consul Paul Lang, of Sherbrooke, advises, under date of October 21, that a survey has been completed and work has already commenced on the extension of the Quebec Central Railway from St. George, Quebec, to Connors, New Brunswick, a distance of 125 miles. This new line will serve a territory not now supplied with railway facilities, containing vast areas of forest lands, with a few scattered villages. At Connors it will connect with the Temiscouata Railway, which extends from Connors to Riviere du Loup, Quebec, the length of the latter being 113 miles. When this extension is completed, all the freight for southerly points from the Temiscouata line will pass over it. This new road has a cash subsidy of $3,200 per mile, when the cost of the road does not exceed $15,000 per mile, and when the cost is over $15,000 per mile 50 per cent of the excess to a maximum subsidy of $6,400 per mile. Also a land subsidy of 3,000 acres per mile. A large tract of new country will be benefited and an immense amount of traffic in lumber and pulp wood will be developed, the greater portion of which will go to the United States.

STREET RAILWAYS.

CHINA.

COMPLETION OF THE SHANGHAI ELECTRIC STREET RAILWAY SYSTEM.

Vice-Consul-General Frederick D. Cloud, of Shanghai, furnishes the following report on the completion of the street railway system, which is considered an epoch in the development of that city:

The advent of the horseless and engineless cars, moving smoothly up and down the crowded streets, occasioned no end of surprise and wonder on the part of the native population. In some quarters there was, while the tracks were being laid, considerable hostility manifested against the whole scheme of having street cars in Shanghai, because of the fear that a large class of men would be deprived of their livelihood. The concession for the building of the lines was granted to a Scotch company in 1905 and by that company transferred, with the consent of the municipal council of the international settlement, to another construction company on condition that the obligations of the original concessionaires should be carried out. According to the franchise the concessionaires were to build 24 miles of railway. The franchise is given in perpetuity, but at the end of thirty-five years, or at the end of any subsequent seven years, the municipality may purchase outright the whole of the company's interest therein.

The rails, which are of British manufacture, are of the grooved girder pattern, weighing 90 pounds to the yard, and the gage is 1 meter (39.37 inches), the narrow gage being used on account of the narrowness of the streets. Two steel bridges were thrown across the creek

which runs through the heart of the settlement, adding greatly to the comfort and convenience of the public. These bridges were built by an English company at a cost of $117,951 for the steel work alone, the foundation work having been constructed by the engineers of the municipality at an additional cost of $288,750. While there were American and German firms among the original competitors for this work, the contracts were let without exception to British firms.

EQUIPMENT AND SECTION FARES.

The cars for the entire system were built by a British company and, while fairly comfortable and apparently well built, are not of a strictly up-to-date pattern. By reason of the gage the cars are narrow and small, a complete carriage weighing but 10 tons. The driving platforms are very small and open.

The cars are divided into two compartments, one for first-class and the other for second-class passengers. The first-class compartment has seating capacity for 12 persons, while the second-class compartment will accommodate 20.

The destination of each car is shown by a transparent roller sign bearing both English and Chinese characters at each end of the car, which are set at the begininng of each trip. Notices in English, French, and Chinese warn passengers against smoking, spitting, or bringing dogs on board. The route each car is to take is further indicated by a colored slide over the headlight. The seats are not fitted with push bells for stopping the cars.

The routes are divided into sections. A section is approximately 1 mile in length. For first-class passengers a fare of 5 cents Mexican (2.1 cents gold) for each section is charged, while for second-class passengers a fare of 3 cents Mexican (1.3 cents gold) for the first and 2 cents Mexican (0.8 cent gold) for each subsequent section is charged. The object of such an arrangement was to induce the Chinese population to patronize the cars by giving them a cheap fare, and to induce foreigners to pay the higher rates by providing them separate compartments. It was also thought that unless some such tariff scheme was adopted the foreign population would not patronize the cars; yet on all the routes, except at the busiest hours of the day, the first-class compartment is practically deserted. So universal has become the use of the second-class compartment that only 10 per cent of the daily revenue comes from first-class passengers, and as the first class is double the second-class fare, it means that out of a total of 38,000 passengers carried daily only about 5 per cent of them travel first class.

DIFFICULTIES IN RUNNING THE CARS.

The operation of tramways in Shanghai is beset with rather unusual difficulties. The motormen and conductors are of necessity Chinese.

It is doubtful if any other city in the world presents such a conglomerate street traffic on such a large scale as does Shanghai. During the busy hours of any week day upon the main thoroughfares may be seen heavy handcarts loaded with a ton or more of merchandise, each drawn by 10 or 12 coolies; wheelbarrows heavily laden with freight or passengers (sometimes as many as 12 persons ride *on one wheelbarrow*), dodging hither and thither in an effort to avoid

collisions with faster vehicles; numberless rickshaws running pell-mell, bicycles and motor cycles with bells ringing, and motor cars and public and private carriages endeavoring to pass everything on the street. When to this surging mass of people, horses, and every kind of vehicle is added a double-track street railway, running down the middle of the streets that in some places are less than 20 feet in width, one is able to realize something of the difficulties encountered in maintaining an efficient street-car service. The difficulties of operation, however, are gradually growing less as the native employees become more experienced and as the public grows accustomed to the new means of transportation.

UNITED KINGDOM.

SPEED OF STREET CARS IN GREAT BRITAIN.

Consul Frank W. Mahan, of Nottingham, furnishes the following information concerning the regulation of the speed of street cars in Great Britain:

According to a table printed in a Nottingham newspaper, showing the average speed per hour of electric street cars in the towns and cities of the United Kingdom, the lowest average is in Northampton, 5.60 miles an hour, and the fastest in Hull and Nelson, 10 miles an hour. The Nottingham average is 6½ miles. In all but 12 of the 73 places in the list, the average speed is below 8 miles an hour.

A street railway can not be constructed in this country without the sanction of the Government Board of Trade. Regulations of the board, specially framed for each case, govern the speed of cars and other details. The speed is determined by the gradient of streets, their width, and the extent of general traffic. In Nottingham the board's regulations allow a maximum speed of 4 miles an hour on certain specified streets or certain parts thereof; 6, 12, and 16 miles, respectively, on other named streets, and 9 miles on all streets not specially mentioned. The other cities are presumably subject to similar regulations. Without this explanation, statements of average speed per hour give hardly a correct notion of the British street-car service. The average is much reduced by the narrow and crooked, though usually short, streets so common in British towns.

BRAZIL.

NOTABLE NEW LINE BETWEEN RIO DE JANEIRO AND PETROPOLIS.

Consul-General George E. Anderson reports that on August 20 there took place the ceremonious driving of the first stake in the construction of an electric railway from Rio de Janeiro to Petropolis, the suburban residence town of many Brazilian business men, and particularly of foreigners resident in the Brazilian capital. The consul-general thus describes the project:

The line is a notable undertaking. It is to pass around a portion of the great bay of Rio de Janeiro, then across a large portion of the bay by way of islands and an unusually long bridge to the foot of the mountain range and then ascend the mountain a distance of nearly 2,800 feet. The line will have its initial station at the foot of the

Avenida Central, the great central avenue of modern Rio de Janeiro. It will pass through the streets of the city, along the bay front until a point somewhat above the new docks of the city, and will then strike across the bay across a bridge 787 feet to Island Fundão, thence to Governor's Island by a bridge 1,115 feet in length, and after crossing that great island will reach the opposite side of the bay by a bridge 2.2 miles long. Thence it will follow up the valley of the Estrella River to the pass at its head and cross over the sierra and follow the old time Imperial Estrella roadway to Petropolis.

The line is to be 60 kilometers or 37.2 miles long, and it is expected to make the trip in one hour and twenty minutes. The present service between Rio de Janeiro and Petropolis is either by ferryboat across the bay and thence by rail to the top of the mountain ridge, the trip occupying 2 hours; or by an all-rail route around the bay and up the mountain ridge, taking about 2½ hours. The present service is furnished by an English company. The new line is organized by Brazilians. The line is to cost $1,800,000, and by requirement of the government concession must be finished within four years.

RAILWAY INVENTIONS.

UNITED KINGDOM.

AUDIBLE AND SIGHT SIGNALS BEING TESTED ON BRITISH RAILWAYS.

Consul John C. Higgins, of Dundee, transmits a cutting from a Scotch newspaper descriptive of the operation of a new invention for audible railway signals, to be used during fogs, now being tentatively installed by the Great Western Railway Company on some of its branch lines.

The following are some of the principal points in the new system as described by the Dundee newspaper:

AUDIBLE RAILWAY SIGNALS.

Hearing, instead of sight, is to play an important part in a new system of signaling which has been invented by members of the staff of the Great Western Railway Company. Under the new scheme an apparatus is fixed in the engine cab and indicates to the engine driver at or near the spot where the distant signal is usually placed the exact position of the stop signals in advance with which the distant signal would be interlocked. The signals given in the engine cab are audible and visual. The audible signals are as follows: Danger, a special steam whistle; all right, an electric bell.

Once sounded, they continue to sound until stopped by the engine driver, and are applicable on double and single lines of railway, while both the danger and all-right signals are given by the signalman to the engine driver without moving any apparatus on the track, the ground apparatus being fixed.

The danger signal is produced by purely mechanical means, and any failure of electric currents results in the danger signal being sounded.

THE CODE.

Any insulation of the ground apparatus, such as might be produced by grease, dirt, frost, or snow, results in the danger signal being sounded. The visual indications are: Danger, red ground with word "Danger;" all right, "white," and these indications in all cases correspond with the audible signals received.

At each point on the line where it is desirable to give the driver an audible signal, a ramp, consisting of a bar of T iron, mounted and insulated on a timber base, is fixed in the center of the running rails. By means of a switch a bat-

tery, normally disconnected, is electrically connected with the ramp when it is desired to give the "all right" signal.

The ramp may be made of any length, seeing it is a fixture, not requiring to be moved to give either "danger" or "all right" signals. The length usually adopted is 60 feet for fast lines and 40 feet for slow. Its highest point above rail level is 4 inches. On each engine a shoe is fixed, designed to rub over the ramp and be lifted up in its passage over it. Its normal position is 2½ inches above rail level, and when passing over a ramp it is invariably raised 1½ inches.

The shoe is insulated from the mass of the engine. In its normal position the shoe serves to complete an electrical circuit on the engine, but when the shoe in passing over a ramp is raised, if only half an inch, the engine circuit is broken. The result of the breaking of this circuit is the liberation of a steam whistle previously held closed by the circuit.

It is not too much to say that while the apparatus would undoubtedly solve the problem of fog signaling, with its expense, delay, and danger, it would be beneficial to drivers only in a slightly less degree when the weather can not be said to be foggy.

No mistakes through absent-mindedness are possible, because the enginemen get an audible and visual signal on the engine, as against "sight only" in the case of the semaphore distant signal.

SWITZERLAND.

AUTOMATIC GRADE-CROSSING GATES ON A MOUNTAIN RAILWAY.

Consul Francis B. Keene, of Geneva, furnishes the following translation of an article in a local newspaper, descriptive of the new automatic grade-crossing gates placed by the Montreux-Bernese-Oberland Electric Railway Company along its line:

At a distance of 150 meters (492 feet) on each side of the level crossing the front of the approaching car, by contact with a wire, closes an electric current setting in motion a mechanism which rings a warning bell and shuts the gates and at night also lights a red lamp; after the car has gone 150 meters farther than the crossing, the current is interrupted, a counterbalance lifts the gates, stops the ringing of the bell, and puts out the light.

The first of these automatic gates was placed two years ago at the Vuarrens passage of the said line and has given such full satisfaction that the company is gradually putting them at all grade crossings.

AUSTRALIA.

ACETYLENE GAS ON TASMANIAN RAILWAYS.

Consul Henry D. Baker, of Hobart, sends the following extract from the proceedings of the Tasmanian House of Assembly on August 13 as to the use of American acetylene-gas machines by the Tasmanian railways:

Mr. W. A. Woods asked the minister of railways: (1) Were tenders called for the supply of acetylene lighting plants now being installed by the railway department? (2) Were local manufacturers of acetylene-gas machines afforded an opportunity of giving a test of their machines in competition with the American machines now being erected? (3) Is it a fact, as claimed, that the local machines are cheaper and more effective than the imported article?

The minister for railways replied: (1) No. (2) Careful inquiry was made before adopting Colt's system. It was found to be largely used on the Victorian railways and elsewhere with satisfaction and meets the Tasmanian railway department's requirements in every way. It has not, therefore, been deemed advisable to experiment with other systems, as there are objections to having a variety of plants in use. (3) It is not known that the local machines are cheaper than the imported article when the workmanship is taken into consideration, and they are certainly not more efficient or effective than the system adopted.

CONCRETE CONSTRUCTION.

BOATS AND BARGES.

MATERIALS, MODE OF CONSTRUCTION, AND ADVANTAGES THEREOF.

In answer to many inquiries, Consul Chapman Coleman, of Rome, reports as follows concerning boats and barges built of reenforced concrete, from information furnished by the builders:

The following data, secured chiefly from the builders, cover all the important information relating to the subject that the consulate has been able to obtain, and which should be useful to Americans engaged or interested in kindred manufactures:

The Gabellini Company, who have been engaged in concrete construction for some eight years, state that in 1905 they built one barge of 150 tons for harbor use which proved a great success. In the following year they constructed one of 100 tons for the Italian ministry of marine, and upon its being found satisfactory after trials in the harbor of Spezzia, four others were ordered by that ministry. The dimensions of these barges are: Length, 51 feet; beam, 16 feet; and they are constructed with double bottoms, divided into water-tight compartments, and thus rendered practically unsinkable. They sell for about $290 each. The company has thus far made no experiments in installing motive power in boats or barges, but is confident that this can be readily done. Comparing first cost and endurance in floating constructions of wood and concrete, the company states that a wooden barge costing $200 requires after five years' service repairs entailing an expenditure of about 30 per cent of initial price, while like constructions in concrete are found after eight years of use to be in perfect condition. Their concrete barges in use for a number of years as supports of floating bridges in Italy show, they affirm, like power of endurance.

EXPERIMENTS IN CONCRETE WORK.

The following statements and claims by this company, respecting experiments in concrete work, are given:

As is well known cement, when brought into contact with water, steadily acquires greater compactness and resistant power, and that having attained the maximum in these qualities, it retains the same indefinitely, without deterioration. From this consideration came the idea, with full appreciation of the difficulties that must first be overcome, of extending the use of this material to water-borne constructions.

While it has been demonstrated that cement possesses the highest degree of resistant power under the strain of compression, this is not the case in an equal measure as respects the strain of permanent tension, and in a still less degree as regards shock resulting from collision. Hence would arise the necessity of constructions in castings of a more or less complicated nature, and the work would require thicknesses of material that would cause deficiency in buoyancy, unless the constructions were on a very large scale.

After long study and trials the problem found a complete solution in the use of the composition "wired (reenforced) cement of uniform resistance," consisting of a conglomerate of cement, containing in its interior a reticulated skeleton of iron or steel, enveloped in sheets of metallic network.

For every case of strain resulting from contact with any solid body provision is made with respect to the particular points upon which the greatest strain would fall, by strengthening them with adequate and duly proportioned location of the metallic reenforcement in the mass of cement; this causes the diverse parts of the mass to adhere in an efficacious manner, so that detachments from the strata which have already been laid on at intervals of time are not to be feared, and render perfect and enduring the impermeability to

water of the cement by distributing the inevitable effect of shrinkage in volume, which it completely neutralizes. By this method the need of costly forms for casting is obviated, and the employment of minimum thicknesses made possible.

By a happy combination the iron is absolutely preserved from rust, owing to its being covered by a layer of cement, as both it and the cement have the same coefficient of expansion, properties well established by experiment, and there is no fear of its detachment from the mass of cement owing to sudden changes of temperature.

ADVANTAGES OF CEMENT FLOATING CONSTRUCTIONS.

Among the characteristic advantages of floating constructions in reenforced cement or concrete, the following are cited by the company:

Naval engineers and builders well know the complications encountered in respect to individual constituent elements in designing and constructing flotation work, and how indispensable for the purpose are establishments provided with a complete outfit of machinery, expert workmen, and special materials. On the other hand, with the new system, any place near the water where the construction is to be launched, is adapted to the work. The cement, the iron bars, and the netting are to be found in all markets, and can be easily transported to the place of construction. In most cases the sand needed for the conglomerate can be excavated in the vicinity, and work therefore progresses in the easiest manner.

First, the network skeleton is mounted in bars of iron, which, owing to their small diameter, are easily bent over the framework; the sheets of metallic network are fastened to the skeleton, and the successive strata are pounded down until the required thickness is reached. So soon as the cement has become well set, the construction is launched, and accessories are fitted in.

In case of a break at a point of the cement walls which extends to the skeleton network, it will suffice to reunite and also reenforce the disconnected parts, restoring them to their original form, if deformation has taken place. The metallic network is rearranged, and, when necessary, quick-setting cement is applied anew to the exterior surface. The iron bars and the network solidify the new to the old, as well in respect to resistant power as to impermeability, since cement adheres to iron with a force superior to its own cohesion.

A water-borne construction built in this manner may well be regarded as consisting of one piece, since it offers equal resistance at all points. There is no need of noting as in constructions of iron or wood certain lines of minimum resistance, and particular places, which, in consequence of the existence of unavoidable joinings, are always the first to be ruptured, in cases of extraordinary shock or strain.

RESISTANCE AND ELASTICITY.

Special attributes of resistance in collisions are due to the presence of the iron, and above all, of the metallic network, which distribute over a large surface the effects of a blow or impact sustained at one point, thus, not only diminishing the gravity of consequences, but also conferring upon the mass of cement a considerable degree of elasticity, which permits it, after suffering momentarily a change of form, to return to its original state, so soon as the strain caused by external force ceases. This has been proved by many experiments with solid bodies of cement in which iron is inclosed.

Many ceilings and floors in reenforced cement constructed for industrial establishments have been shown to be specially adapted to resist the vibrations due to motors which they are required to sustain. Other such constructions, in docks, sustain continuous shocks by reason of the impact of falling heavy bales of goods. Experiences with gunnery at Schoorl, in Holland, in 1892, have shown that the simple application of a belt of iron, embedded on occasions in conglomerate, and of only a few millimeters in thickness, has added much, as an element of cohesion, to the resistant power of the mass.

There is little attrition in water. The external surface of the construction is brought to the maximum grade of smoothness not attainable with iron or wood; hence a saving in the motive force for propulsion.

Its stability diminishes the danger of capsizing, since the weight of the concrete construction calls for greater submersion than with the ordinary boats of like external form.

Since concrete, in contact with water, finds its best conditions of existence, a century of ever-increasing use having shown it to be refractory to external

agents, and since iron finds in cement its best protector against rust, to such a degree that after ten years no trace of rust has been found in samples of cement-covered bars submitted for examination after demolition, it may be safely deduced that no trace of deterioration will be encountered in the passing of many years in constructions of reenforced concrete.

CONTACT WITH WATER—PRACTICAL USE.

Incrustations which in a short time destroy the smoothness of hulls, and thus favor the life and growth of animal and vegetable organisms, are entirely avoided in cement constructions. Thus, minimum resistance to speed is long preserved, and the expense of external cleaning and painting avoided, without considering the saving in time which would be lost to the profitable service of the boats through necessary operations of that character.

Cost of maintenance is practically eliminated in consequence of the properties of reenforced cement. This is an advantage of great importance over construction in wood or iron, for annual repairs to which relatively large sums, compared with first cost, must be sacrificed.

Since cement is nonabsorbent, impermeable to humidity, and is not attacked by ordinary chemical reactions, complaints over losses in cargoes caused by such agencies during transportation by water will cease; liquids can also be conveyed in this material with great economy in properly constructed floating cisterns.

No other material can be subjected to frequent washing and disinfection without danger of incurring loss of substance or absorption of moisture.

Reenforced cement is not only incombustible, owing to the material of which it is composed, but does not suffer disruption when subjected to flames, as happens, with disastrous results, to every other composite material.

At the Gabellini establishment various boats have been constructed to demonstrate, with supporting facts, the advantages above enumerated. Two of these boats have been for a long time in the waters of the Tiber, in the custody of the Aniene Rowing Club and at the disposal of its members, who often use them, without any damage or trace of deterioration having yet been observed.

The first and easiest applications of this method of construction are illustrated in the transportation barges for internal navigation or port service, in pontoons for floating bridges, and in caissons sustaining floating edifices, such as laundries, bathing establishments, boat clubhouses, etc. The expectation is entertained that this new system of construction will have a great future when intelligent engineers and practical builders, after mastering the details of present construction, will create new and more advanced types of vessels with which to defy the liquid element.

RAILWAY TIES.

COST, QUALITIES, MATERIALS, AND CONDITIONS OF MANUFACTURE.

In the preparation of the following report concerning the manufacture of reenforced cement railway ties in Italy Consul Coleman says that the information was furnished by the Italian state railway authorities, the Gabellini Cement Company, and others:

The Italian Government has ordered 300,000 of these ties, which are now in course of construction. A few thousand of such ties, ordered for experimental purposes, were constructed by the Gabellini company some years ago, and have been used on the railroad from Castellamare-Adriatico to Ancona. As a result of the trials to which the ties were subjected a new design, to be employed in executing

the present large order, will replace the old. The principal change will, it is understood, be found in the introduction into the concrete mass of a larger number of the reenforcing metallic bars, of reduced diameter, in the new design of ties.

The cost of a concrete tie is estimated at about $1.20, and it is believed that its endurance will be from three to four times as great as that of a wood tie. A tie will weigh about 286 pounds, inclusive of the weight of the metallic reenforcement, about 28 pounds. A comparison of the respective cost and value of concrete and wooden ties would no doubt give different results in the United States from those afforded in the Italian estimates, owing to varying conditions in the two countries affecting local cost of materials and manufacture, endurance, etc. The belief is largely entertained here that the concrete tie will eventually entirely replace wood tie.

SPECIFICATIONS FOR REENFORCED CONCRETE TIES.

The following are the principal features of the technical specifications respecting the furnishing of ties of reenforced cement to the Italian state railways:

The materials to be used in construction are normal Portland cement, sand in grains of two sizes, round iron bars, and braces of wood. The cement must not contain impurities of any sort, nor more than 2 per cent of sulphur in any state of oxidation. The tests of the purity of the cement must not show variations in volume nor excessive heat during the process of setting. Tests mechanically conducted with normal sand, which has been kept for twenty-eight days under water, must show a coefficient of resistance to strain of not less than 10 kilos per square meter and a coefficient of resistance to compression of not less than 100 kilos to the square centimeter. The sand must be calcareous-siliceous, containing about 30 per cent of silex, must be nonbituminous, and must consist of grains of two sizes; the half of the quantity necessary must be passed through a screen with circular holes of 5 millimeters in diameter; the other half must be normal sand.

At equal prices preference will be given to artificial sand obtained by the crushing of calcareous-silicious stone, providing the products respond to the above indicated conditions and the stone resist breaking under a pressure of not less than 500 kilos to the square centimeter. The round reenforcing bars of the ties must support three bending tests at a temperature of 20 degrees of cold. The use of zinc iron is excluded. Braces must be of wood of strong fiber (male oak, bitter oak, hornbeam, walnut, acacia, etc). The wood must be well seasoned and derived from trees felled while green and at the proper season of the year. They must be thoroughly permeated with tar oil and must not contain cracks or other defects which may prejudice the use for which they are intended. No tolerance will be given in the dimensions of the braces; they will be provided at the cost of the furnishing firm and will be subjected to examination by the agents of the state railways before acceptance.

In the construction of the ties a paste or admixture will be employed which shall contain a cubic meter of sand (one-half large, the other normal), 750 kilos of normal Portland cement, with the addition of a little water to give the mass a moist consistency. The sand will be washed with clean water, and so carefully and thoroughly that when fresh water is again applied it will be found to remain perfectly clear.

This mass must be diligently compressed around the armature, either by hand or mechanically. For compression by hand work pestles of a weight not inferior to 750 grams will be employed, and the material to be compressed will be applied in strata of not less than 2 centimeters in thickness and will be continued until complete adjustment is attained. For mechanical compression a pressure not inferior to 25 kilos per square centimeter must be employed and applied at the same time to the entire tie.

The ties, as soon as formed and without having been subjected to any bending strain, must be placed upon an even, unbroken surface and covered with powdered tufa or earth material, and must be kept constantly moist for at least

fifteen days. After twenty days the ties may be sacked, but must be protected from the action of atmospheric agents for a further period of at least ten days. The ties may be entirely submerged in water, but only after setting has taken place.

The agents of the administration of state railways will supervise the manufacture of the ties and will assure themselves that the conditions of these specifications are observed, and will therefore have the right of free entrance to the plant of the furnishing firm at all times. They will also be entitled to break open one tie for every thousand in order to ascertain whether the reenforcement has been done with iron bars of the prescribed diameter; and whenever it is found that bars of a less diameter have been used, the entire quantity under manufacture will be rejected.

The furnishing firm is required to guarantee the ties for one year from the date of the last receipt of consignment and to replace or refund the price of any ties which it has become necessary to remove during the period of guaranty because of their unserviceable nature, resulting from defective manufacture; and action in this regard is to be left to the exclusive judgment of the administration of the state railways.

Diagrams showing the detailed Italian construction and manufacture and test of concrete railway ties may be seen at the Bureau of Manufactures.

SHIPPING TRAFFIC.

BRAZIL.

RENEWAL OF CONFERENCE COMBINATION OF SHIPPING LINES.

Consul-General George E. Anderson writes from Rio de Janeiro that not only is the rebate or conference line system to control in the matter of freight rates between the United States and Brazilian points during the ensuing year, but that, apparently, it is to control more completely than ever. Mr. Anderson continues:

As a result of a recent conference in Hamburg between representatives of the several lines concerned the following notice, signed by the Royal Mail Steam Packet Company, the Hamburg-South America Line, the Hamburg-America Line, the Norddeutscher Lloyd, the Prince Line, and Lamport & Holt, has been issued:

Shippers of coffee at ——— are hereby notified that, subject to the conditions hereinafter expressed, the undersigned lines will pay the following rebate of freight on coffee shipped by their respective steamers to the ports of Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States of America, during the year beginning the 1st of September, 1908, and ending August 31, 1909, and thereafter year by year until further notice, viz:

Five per cent (5 per cent) for shipments up to 100,000 bags and one-quarter per cent (¼ per cent) more for every additional 10,000 bags up to a maximum of ten per cent (10 per cent) for 300,000 bags or over.

The rebate to be paid to each shipper will be computed every twelve months, say up to August 31 in each year, on his total shipments by the combined lines and be payable six months afterwards, but only to shippers who have up to such due date of payment, confined their shipments of coffee to Antwerp, Amsterdam, Rotterdam, and the rivers Weser and Elbe, and to ports in the United States to the undersigned lines.

No rebate will be paid on freight on sample lots, nor on additional freight charged for delivery at post-terminal destinations of goods shipped on through or optional bills of lading.

A statement of rebate claim must be made on a form as annexed and presented within three months succeeding the date on which payment falls due to the agents of the company which has carried the merchandise in respect of which the rebate is claimed.

Until further notice any shipments by steamers of the National Brazilian Line, under the Brazilian flag, to the United States and of the Koninklijke Hol-

landsche Lloyd to Amsterdam at not under conference rates of freight and conditions will not prejudice shippers' claims of rebate.

EFFECT OF CONFERENCE.

The important portion of this notice, as representing a change from conditions which have obtained in the past, is contained in the last sentence, in which it is made permissible for shippers to grant some of their business to the subsidized Brazilian line if the business is handled upon precisely the same terms as the conference lines. This is taken as an offer or an invitation for the Brazilian line to join the conference, in effect at least, since without paying a rebate similar to the conference lines the Brazilian and Holland Lloyds can not expect to obtain business unless they cut rates offered by the conference lines. By accepting the conference rates and conditions and, inferentially, paying the same rebates, they are put in a position where they can secure a portion of the business of shippers who otherwise would ship altogether by the conference lines to avoid being penalized for shipments by outside lines. Yet if the Brazilian and Holland Lloyds accept these rates and conditions they are in effect members of the conference.

A further point to be noted in the offer or invitation is in that it is limited to vessels sailing under the Brazilian flag, as far as the Brazilian Lloyd is concerned. This, of course, shuts out chartered steamers of other flags. Inasmuch as most of the business of the Lloyd Brazileiro in its American trade is in chartered vessels, this offer is, in effect, an invitation to reduce the business of the line to such business as can be handled in Brazilian ships and come in the conference. Present indications are that there will be no material change in the general course of shipments by the respective lines by reason of any terms in the agreement just announced.

UNITED KINGDOM.

RAILROAD COMBINE AND INCREASE RATES.

Consul Alfred K. Moe, of Dublin, quotes the following from British newspapers, which he says is indicative of coming changes in passenger and freight rates between English ports and Irish stations, that may greatly affect American trade in Ireland:

We are enabled to make public a further important development which will result in an immense strengthening of the English railway alliance. As was pointed out, the only weak spot was the fact that the Great Western Railway had stood aloof from the understanding. This weakness has now been overcome. At a conference held at Swindon the Great Western Company agreed to join with the other companies, and the result is that all the railway companies of the country are now able to present a completly united front in carrying out the new policy. The Midland Railway, owing to pressure and persuasion, has withdrawn its opposition to the Great Western's traffic schemes. The cause of the trouble having been removed the remainder was easy. The inclusion of the Great Western in the alliance will have the greatest effect on the Anglo-Irish traffic. Since November all routes to Ireland are noncompetitive, and passengers and freight will travel either by Holyhead, Heysham, Fleetwood, or Fishguard, irrespective of the line on which they are booked. From the public point of view the agreement may not have entirely satisfactory results for fares and freight charges between London and Dublin, Belfast and southern Ireland are to be closely examined, and if found necessary raised, while services will be alternative, not duplicate.

BELGIUM.

NORTHERN PORTS OF EUROPE EXPERIENCE TRAFFIC DECLINE.

Consul-General Henry W. Diederich, of Antwerp, advises that the depressed condition of the world's trade has made itself seriously felt in the three leading seaports on the northern coast of Europe, as the following facts exhibit:

The month of August, 1907, brought the heaviest blow ever experienced by the Antwerp shipping trade. This was caused by the great strike among the dockers. However, this year the same month proved still more unfavorable to the same interests, showing 18 ships and a tonnage of 14,144 less than it did in 1907. Rotterdam was still less fortunate, losing 87 ships with 33,854 tons when compared with the month of August of last year. In Hamburg there was a decrease of 160 vessels with 23,884 tons during the same period.

The statistics of the business done in these three seaports during the first eight months of the present year are as follows:

Year.	Antwerp.		Rotterdam.		Hamburg.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1908	4,088	6,308,263	5,829	6,267,139	11,350	8,195,611
1907	4,342	6,517,034	6,711	7,150,876	11,087	8,039,242

Hamburg, therefore, is the only port which shows an increase for this period when compared with 1907, but it was very slight indeed.

SOUTH AFRICA.

AMERICANS LOSE ORDERS THROUGH RATE DISCRIMINATIONS.

Consul W. Stanley Hollis, of Lourenço Marquez, gives the following example of how the lower quotations of American houses fail to secure orders because of ocean freight-rate discriminations:

This consulate recently reported upon certain tenders for railway material that would be called for by the Mozambique Government, the bids for which were opened here on September 1. Two German firms, one American, and one English firm offered bids, and the successful bidders were Arthur Koppel (Limited), of Germany, whose prices were considerably lower than those quoted by the American agent.

I am informed that c. i. f. prices were stated in the bids, and the American tendered in his calculations, estimated for freight and other charges, some $7 per ton higher than his successful German competitor. The German manufacturers will enjoy a low freight rate, as they will ship by the regular freight steamers of the German East African Line, which is subsidized by the German Government and which has practically acquired a shipping monopoly on the east coast of Africa.

To show how the shipping charges upon the "ring" steamers from New York to this coast must affect commerce, I have only to point to one case that has just been brought to my attention. A boiler and engine, in one piece, boxed in one huge case, weighing 8 tons but

measuring 19 tons, has just been landed here from a direct steamer from New York, and the simple freight charges on this one piece of machinery are approximately $500. Eight tons of kerosene oil could have been shipped from New York by the same steamer for the total freight charge of $40. Further comment is hardly necessary.

STEAMSHIP LINES.

CHINA.

DALNY-SHANGHAI WEEKLY SERVICE ESTABLISHED.

Consul Roger S. Greene, of Dalny, furnishes the following information concerning the establishment of steamship service between that port and Shanghai and the expected favorable effect thereof on Manchurian trade:

The South Manchuria Railway Company's direct steamship service between Dalny and Shanghai is being inaugurated to-day (August 10). For this service a Japanese steamship, a well-equipped passenger boat, of 2,877 gross tons, has been chartered for a year at $6,090 gold per month, all expenses to be paid by the owners. There are accommodations on board for 32 first-class, 36 second-class, and 226 third-class passengers.

The distance from Dalny to Shanghai is 560 miles, and as a speed of 12½ knots is to be maintained, the trip will take a little less than 48 hours, no stops being made at way ports. According to the present schedule the arrivals and departures are timed to connect, through the South Manchuria Railway, with the International Sleeping Car Company's east and west bound trains at Harbin.

For travelers between Europe and Shanghai this route offers a saving in time of at least two days, as compared with that via Vladivostok. The disadvantage of this route is that the traveler must change cars twice—at Kwanchengtzu and at Harbin—before he finds himself at last on board the Trans-Siberian express.

The fares are as follows, in gold: First class, $20; second class, $12.50, and third class, $5. A 20 per cent reduction is granted on first and second class return tickets.

EFFECT ON MANCHURIAN TRADE.

While the railway company has endeavored to emphasize the fact that this line is intended to encourage through traffic and to serve as an advertisement rather than to draw freight from Shanghai, if it is eventually to become a source of profit it must be through the development of a freight business. At this time of year no exports are offered for Shanghai and the steamer makes her first voyage southward without any cargo whatsoever. Hitherto, even at the busiest season, there has been comparatively little freight for Shanghai, and though this year the wild silk exports rose to a fairly respectable figure they only lasted for a few months. Neither is it likely that exports to Shanghai will very greatly increase at present, even now that regular sailings are established.

With imports the case seems to be different. The Chinese merchants in Manchuria are accustomed to buy in Shanghai, but hitherto only those who imported through Newchwang could conveniently do

so. Sailings from Shanghai to Dalny have been very infrequent, and so irregular that they could not be depended upon. Goods had to be sent by way of Chefoo or Japan and frequently did not arrive for a month or more from the time the order was mailed. The mails themselves being very irregular, letters have usually taken about a week, and sometimes nearly three weeks, to make this short journey. Now even the smallest Chinese trader should be able to send an order to Shanghai and get his goods here within a week.

The Japanese merchants are also taking a lively interest in the establishment of this line, as they hope to be able to buy foreign goods more advantageously in Shanghai than in Japan, Many foreign goods sold here have already paid the import duty in Japan. In Shanghai the import duties are light and the Japanese merchants hope, therefore, to find a large selection of goods to choose from, at reasonable prices.

Special reduced rates have been granted for the first round trip, and among the first and second class cabin passengers are quite a number of merchants going to Shanghai to buy or to investigate matters, and perhaps establish connections for future business.

The new connection seems bound to have a favorable effect on the foreign trade of Manchuria.

BRAZIL.

RAPID EXTENSION OF NEW EXPRESS STEAMSHIP SERVICE.

Writing from Rio de Janeiro, Consul-General George E. Anderson says that the steady development in the tonnage and speed of vessels plying between Europe and South America, which has been going on for the past two and a half years, is further exemplified in new ships which have just made or are preparing to make their first trips to Brazil. The details follow:

Both British and Italian companies in the South American trade are increasing their fleets and, moreover, they are improving them both in the size of the vessels and in the speed of these vessels. The situation is indicated by the fact that in the middle of September two new vessels entered this port from Europe, each of which made the trip out in an average of over 17 knots per hour. One of these vessels was the Orcoma, of the Pacific Steam Navigation Company, which makes the trip from Liverpool to Valparaiso, Chile, by way Rio de Janeiro and Montevideo.

It is of the type of the latest fast ships from the north of England in the South American service, 510 feet long with a tonnage of 11,532, has quadruple balanced engines, developing 8,500 horsepower, and accommodations for 250 first-class, 220 second-class, 120 intermediate, and a large number of third-class passengers. All the fittings in the accommodations for all classes of passengers are of the latest models, the conveniences are of the most modern sort, and the ship is in general a fine example of a modern passenger express vessel.

The other vessel was the Re Vittorio, of the Navigazione Generale Italiana, which is making the run from Genoa to Buenos Aires by way of Rio de Janeiro. It is one of six of the same model which its company are now putting out; two of these ships have already entered the service, and the third will soon be on its way out.

The Re Vittorio is a vessel of 11,000 tons, which can develop a speed of 19½ knots per hour, and whose schedule calls for 17½ knots. The vessel has accommodations for 84 first-class, 102 second-class, and 1,200 third-class passengers, and on her first trip out carried 1,384 passengers in all.

At the present rate of development the tonnage and average speed of vessels between Europe and Brazil for the second half of the current year will show an increase of fully 20 per cent in the former and 12 per cent in the latter on an average over the record for the first half of the current year, which in itself has gone beyond all records.

MEXICO.

HAMBURG-AMERICAN LINE WILL CALL AT COATZACOALCOS.

A report from Consul William W. Canada, at Veracruz, states that the vessels of the Hamburg-American Line, heretofore calling at Habana, Veracruz, and Tampico, have now included the port of Coatzacoalcos in their itinerary. The Fürst Bismarck, sailing from Veracruz October 9, was the first vessel of this line to call at that port. This would seem to indicate that considerable traffic will be inaugurated with Pacific coast countries in connection with South American steamship lines via the Isthmus of Tehuantepec. The Royal Mail Steam Packet Company will also make Coatzacoalcos a port of call.

A GAS-DRIVEN SHIP.

SUCCESSFUL ENGLISH EXPERIMENT ON THE RIVER MERSEY.

Vice-Consul W. J. Sulis, of Liverpool, gives the following account of the successful demonstration of the applicability of gas propulsion to slow-going ships just made there on the river Mersey:

The Rattler, the vessel on which the experiment was carried out is an obsolete British gunboat now being used as a training ship for volunteers. This vessel of 700 tons made a trip to the Crosby lightship and back, about 14 miles, propelled by gas. The old steam machinery, which was of the usual horizontal triple expansion type with two navy boilers, was removed and replaced by a single-acting gas-producing plant and five cylinder engines, made by a firm of engineers who have had extensive experiments with the new propelling agent.

A feature of the plant is the great economy of coal which takes place by its use, it being calculated that the consumption of the anthracite coal used was equivalent to 0.8 pound per indicated horsepower per hour, while the machinery, weight for weight, is 25 per cent less than that of the old machinery.

The saving of space by the absence of boilers is marked, and there is no stokehold. The whole staff engaged at the engine consists of three engineers and two firemen. The producer is a steel casing, lined with fire brick, and is fed from the top with coal once every hour. No trimming or dressing is required, and the coal being all used up leaves a residue of pure ash.

OPERATING MECHANISM.

The gas is formed by the air being drawn in through the bottom of the producer, which, having been decomposed, reaches the top of the consumer in the form of gas. After leaving the producer the gas passes through a cooling tower, where it is treated by sprays of water, and thence to a centrifugal drier, where the water is separated. The drier consists of a fan revolving at a high rate of speed, and the gas being lighter remains in the center of the drier, and the high rate of speed of the blades throws the water and grit to the sides and passes to a water seal. The gas then passes along to the engines, where the normal process of carburation and ignition takes place.

The engine is of five cylinders of the four-cycle type. The exhaust gases are treated by means of an exhaust drum, with tubes, through which water is circulated, and the steam thus generated is conveyed to the producer to assist in the production of the gas. The exhaust boxes effectually silenced the engine of the Rattler, which, with all its cylinders of 20-inch diameter and 24-inch stroke, produces 500 horsepower at 90 revolutions per minute, driving the vessel at an average speed of 10 knots.

While the owners of the gas-producing plant claim that the application of the gas engine to marine engineering would revolutionize the mode of propelling vessels designed to travel at a slow speed, it would not, they admit, compete with the steam turbine at high speeds, as the limits of its usefulness is reached at a speed at which that of a turbine only begins, viz, about 14 knots.

As an auxiliary power to sailing vessels, it is said to supply the desideratum of economy in fuel and space.

VEHICLE LOCOMOTION.

MOTOR CARS AND BOATS.

UNITED KINGDOM.

ULTIMATE COST OF MOTOR VEHICLES AND ELECTRIC STREET CARS.

In view of the signs of an increasing use of motor omnibuses in the United States, Consul J. Perry Worden, of Bristol, has prepared an extended report concerning their operation and cost in England, from which the following extracts are taken:

By far the greater number of buses, lorries, vans, etc., use petroleum as fuel rather than steam or electricity, petroleum conducing to a minimum of cost, and the capital cost of a commercial motor-vehicle undertaking being a small matter as compared with the ultimate cost of operating. This fact seems to be emphasized when the relative advantages of electric trolley cars and motor buses are considered. While electric-propelled cars, with their power house, cables, and permanent way, may in the first instance cost four or five times as much as a motor-bus installation, the operating costs are so decidedly less with the electric car that in populated districts the latter can, generally speaking, more than hold its own. A garage should be designed, therefore, with a view to securing the most efficient and economic working, rather than the immediate saving of a few dollars in initial expenditure.

ENGLISH MOTOR GARAGES AND WORKSHOPS.

A careful study of several of the best motor-bus garages in this part of the country leads to the conviction that if one would lay out a model garage it might be on a scale where the vehicles are placed ten abreast in rows of two, with sufficient yard space to enable them to turn in and out of the shed. The effect of this arrangement is to reduce the movement of the vehicles to a minimum, since, at the most, but one vehicle has to be moved to get any other bus out of the shed. This is an important feature, time and expense being thereby saved, inasmuch as, for many reasons, it is not possible to arrange the vehicles in the shed at night in the order that they should go out on the following day.

Most good motor-bus workshops in England are situated near, if not next to, the office and near the entrance to the garage, and are equipped, of course, with suitable outfits and tools to enable the repairs to be carried out cheaply and expeditiously. There are lathes, small drilling machines, shaping machines, grinders, blacksmiths' forges, and wheel presses for re-tiring. Pits are provided in the shed, under the four vehicles next to the workshop, for facility in

repairing and overhauling, and also under the third and fourth rows for the purpose of reblocking the brakes, etc., of the service vehicles in case all the other pits are occupied by vehicles under repair.

At the end of most sheds is left a space that can be partitioned off and walled in,where bodies of the vehicles can be repainted and revarnished. Near the gate to the shed, perhaps on the left side coming in, will be found the best place for the petrol and filling tanks isolated from the main building. The carbide store is usually just beyond the petrol store, and here, and here only, if one would be cautious, all generators should be recharged.

Petroleum buses are undoubtedly the most popular motor buses in England, and a glance at the precaution taken in handling this volatile spirit may be profitable. Probably the best method of storing petroleum is in a large tank buried in the ground; a tank with an escape, and a suitable indicator calibrated to read off the amount of petroleum in the tank according to the level. The petroleum, or petrol as it is called here, is best delivered by a road tank wagon, which can be checked on a weighbridge for weight, full and empty, against the advice note of the supplier. By this means all handling of barrels is avoided, as the petrol can be emptied direct into the storage tank. This method not only saves considerably in labor, but also very much simplifies the records.

As the petrol bill on motor vehicles is one of the principal items of the running cost, every means should be adopted for studying and obtaining economy in consumption. One essential feature is to know the amount of petrol consumed by each vehicle, and means should be provided to this end. A petroleum-storage tank may be connected through a small semirotary pump to a smaller tank provided with a gage glass, which is carefully calibrated in gallons. This small tank, which will hold about 40 to 50 gallons, is placed at such a height that the petrol will flow into the tanks of the vehicles by gravitation.

Notwithstanding the fact that the consumption of petrol is a matter of vital interest, and that various and many carburetors, auxiliary air valves, etc., have been tried, nothing seems to have made the marked improvement for which many directors of garages are waiting and anxiously looking. One or two controllers are pronounced helpful, but there still appears to be scope for ingenuity in carburetors, especially if it be true that there is a possibility of a petroleum famine.

USE OF LUBRICATING OILS—SERVICE SECURED.

This use of petroleum suggests the considerable use of lubricating oil, and reminds one that the most of oil used in motor engines is absolutely wasted. Of course some engines are far more wasteful than others, but careful supervision, coupled with the longer experience of drivers, should have, and in fact already has had, the effect of greatly reducing the amount used. The personal tendency of engineers in Bristol and vicinity is to use the cheaper oil, and in many instances they have found it to have answered equally well, but, for any great economy, the driver is the man who is to be looked after. Apart from the monetary consideration, overlubrication is detrimental to the running of the engine, by oil getting on to the brakes, and also causes smoke to proceed from the exhaust, while the excess

drips all over the road. On some of the latest chassis models automatic lubrication has been introduced.

Once the American capitalist, desirous of embarking on the motor-bus enterprise, decides on the method of propulsion and the arrangement of the garage, he will do well to think of the average service of both vehicles and men. One of the most important questions that is to be decided first is the average proportion of the vehicles advisable to keep on the roads in everyday service.

Experts seem to favor in a garage of 20 buses, as a maximum, the average use of but 13 buses a day, 7 days running, of an average of 90 miles per day, and to believe that this is the greatest number that can be kept on the road consistent with efficiency, where a regular service has to be run daily. This number would, therefore, allow two or three buses to be kept in readiness for changing over and for special service, while the remaining five would be going through the hands of the day repair staff. Thirteen may seem to some rather a small percentage to keep on the road, but it would have the effect of providing the greatest number of buses for service on holidays and those days when the revenue per car-mile is worth looking after.

With motor vans for freight, it is probable that the average percentage can be increased, but even in this case experience suggests that it would be a mistake to try and attain a very high percentage. Motor vehicles must have great attention paid to them at the hands of thoroughly efficient men, and unless this is done expensive breakages will occur which otherwise might have been prevented.

ADVANTAGES OF MOTOR BUSES.

One of the advantages of the motor bus over the trolley line is that it does not require the pulling up or disfiguring of the streets, and another advantage is the possibility of running the motor bus on new or special routes, even turning out of the regular pathway to deposit a passenger before his or her own home. The motor bus, therefore, would seem to be just the vehicle needed for those districts in the United States where the opposition of wealthy real estate owners often prevent the running of street cars for a mile or two, and where it is very desirable to connect certain lines of electric trolley with each other. Motor buses being thus independent of railroad tracks are more and more used in England for special excursions, and it is not an unusual sight to see a motor bus belonging to one city running around the streets of another town 15, 20, or 30 miles distant.

Judging by the success of the English coach builders, and the English makers of machinery for motor buses, the age of the motor bus, which is a most efficient adjunct to the overcrowded street cars, has just begun in England, although England has thousands of such wagons in use to-day, as compared with a few dozen operating in the chief cities of America. [The remainder of Consul Worden's report, which enters into the minutest details concerning offices, stores, tools, workmen and their duties and preparatory instructions in those duties, care of tires, detailed costs of running vehicles, use of tickets as a check on conductors and passengers, insurance, kinds of buses in use, etc., is on file for public reference in the Bureau of Manufactures.]

DUNDEE.

GROWING POPULARITY OF AMERICAN MOTOR CARS.

Consul John C. Higgins, of Dundee, reports as follows concerning motor cars in his district:

There are two motor cars in Dundee manufactured by a company in Cleveland, Ohio. They are 30-horsepower machines, and use coal oil for fuel. These machines are highly satisfactory to their owners, being noiseless, positive in their exhibit of power under all conditions, economical of rubber tires, in cost of power per mile, and in general upkeep. At least 15 other cars of this make are known to be owned within a radius of 50 miles of Dundee. This American company has agencies also in London and Edinburgh.

Another American motor is said to be making headway rapidly, while three business motor cars of a cheaper grade have recently been received here—too recent for a full report as to their work.

An owner of one of the Cleveland machines informed the writer that, being in want of a smaller machine, he contemplates buying another make of American car.

The foregoing would seem encouraging to American manufacturers who might be inclined to place their cars in the British markets.

BIRMINGHAM.

USE OF MOTOR BOATS AND GAS ENGINES INCREASING.

In answer to inquiries Consul Albert Halstead, of Birmingham, furnishes the following information concerning the use of motor boats and gas engines in his district and throughout England:

There is little opportunity for the sale of motor boats in this consular district, which is located in the center of England, comparatively remote from the sea and with no large water in the vicinity upon which motor boats could satisfactorily be used. There are probably some motor boats near Worcester in the Severn River, and there might be a chance to use a motor boat on the Avon River, near Stratford-on-Avon, but one who would enjoy the pleasures of a motor boat would not select Birmingham and vicinity for that purpose. It is possible, however, that marine motor gas engines could be successfully used for the propulsion of canal boats on the canals in the vicinity of Birmingham. In fact, one such boat, manufactured by a Birmingham boat builder, is now in use, and has installed therein a 15-horsepower two-cylinder motor, using a low grade of kerosene, called paraffin here, and which works with little vibration. This boat has a carrying power of 34 tons, but in practice it only carries 26 tons, because many of the canals are so shallow as to make a heavier load impossible. [A report concerning this boat was printed in the Daily Consular and Trade Reports for October 21, 1907.]

An article in a leading newspaper, of recent date, goes to show that marine motoring in England is being eagerly taken up by those who have money to afford it; it also shows that there is a market for marine gas engines, but it must not be forgotten that this market is a highly competitive one and that American motor boats or marine gas engines of any kind can not be sold in England without the most careful salesmanship and personal solicitation. The effort to sell them by correspondence or by catalogue will not be successful. [A list

containing the addresses of dealers in American machinery, gas engine manufacturers, and gas engineers in Birmingham, transmitted by Consul Halstead, is on file in the Bureau of Manufactures.]

SPAIN.

MOTOR BOATS NOT LARGELY USED IN SPAIN.

Consul-General Frank D. Hill, of Barcelona, furnishes the following information concerning the use of motor boats in Spain:

Motor boats have made very slight headway in Spain, and little hope can be entertained of their finding a large sale here at present. There are numerous obstacles in the way of motor boats attaining popularity, the main reasons being the lack of rivers and lakes, where they might be used as pleasure craft, and the high price of gasoline. On the other hand, no attempt has been made here to adapt their use for commercial purposes in harbors, etc.

The total number of motor boats owned at Barcelona does not exceed 20; a few of these were imported from England, the remainder being of local construction, the latter giving satisfactory results, although used to a very small extent, the lack of adequate waterways accounting for this. I forward the address of importers of motor boats at this port who have advised this office of their desire to represent American motor-boat manufacturers. This firm is in the maritime business, with connections at the local yacht clubs.

The consular agent at Tarragona reports as follows regarding motor boats in his district:

There are no motor boats in this district, nor are the people in general prepared as yet to take an interest in innovations of the kind; the local board of harbor works possesses the only one extant—constructed at Barcelona a few years ago—but the public evinces great indifference with regard to it.

The consular agent at Bilbao transmits the names of firms who might be interested in motor boats at that place. The situation in other Spanish cities is practically identical with that at Barcelona. It is therefore impossible to be very optimistic in the matter of the introduction of motor boats into Spain.

Customs duties on motor boats entering Spain are assessed on the gross tonnage at the rate of 17.50 pesetas ($3.59) per registered ton. [Names of firms interested in motor boats in Bilbao and Barcelona are on file in the Bureau of Manufactures.]

GERMANY.

LARGE INCREASE IN MANUFACTURING IN FIVE YEARS.

According to the following German official statistics contrasting the years 1901 and 1906 Consul William Thomas Fee, of Bremen, says that the automobile industry in the Empire shows a remarkable increase:

In 1901 there existed in Germany 12 automobile factories employing 1,589 persons, while in 1906 this number had increased to 34 factories with 10,347 employees. In 1901 $431,873 in wages were paid by the factories, or $272 per workman, while in 1906 $3,171,012 were paid for wages, or $307 per workman. The total value of production shows nearly a tenfold increase in the five years. It amounted

in 1901 to about $1,340,000, and in 1906 to $12,200,000. The following sums were expended in manufacturing automobiles:

	1901.	1906.
Wages to laborers (skilled and unskilled)	$431,873	$3,171,012
Salaries to officers and clerks	101,545	622,693
Value of the chief articles used in running the factories (such as coal, etc.)	34,442	381,959
Value of the chief articles used in manufacturing automobiles	629,126	6,236,226

ASIATIC TURKEY.

A LARGE TRADE IN AUTOMOBILES ANTICIPATED.

Information concerning the automobiling routes in European and Asiatic Turkey and what American manufacturers must do if they would fully participate in the anticipated trade in automobiles in that Empire, is furnished by Consul-General Ernest L. Harris, of Smyrna, who writes:

The following article from the July number of the Near East, an English publications, will be of interest not only to automobile manufacturers in the United States, but to pleasure seekers as well who are planning tours abroad with their own machines. This office is often in receipt of questions in this respect, and the article is full of information:

This is the first year that motoring in any form has been allowed in the Turkish Empire. The Imperial irade was issued in the latter part of 1907, and the spring season this year saw several motors on the roads adjoining the city of Constantinople. The Turk hails them with pleasure, and the rich pashas and other notabilities will soon be using them instead of the highly trapped horses and Parisian and Viennese carriages now so much in evidence. Unfortunately there are no English cars here. One naturally asks the reason for this. From the representatives of English firms I learn that English motor manufacturers will not conform to the practice pursued by makers in Germany, France, Italy, and Belgium. That is to say, they refuse to send cars, accompanied by chauffeurs, for the Turkish population to see. They do not realize that the motors first installed in the Ottoman Empire will capture the cream of the trade. The idea prevails in Turkey that the goods to buy are the goods which are well displayed; and I am very much afraid that English motor manufacturers will be left out in the cold, so far as this new field for their industry is concerned, unless they adopt common-sense methods.

As regards the future of the motor in Turkey, let us consider first the pleasure car or the passenger vehicle propelled by petrol. The roads are in places rough and hilly, but the writer has seen motors in Russia and in the backwoods of America driven over much rougher thoroughfares without the least trouble. Motors for use in Turkey must have strong elastic springs and shock absorbers. They must also be of the 4-cylinder type and run noiselessly, which the foreign cars I have seen do not do. The English manufacturer should remember that in the Turkish Empire there are 30,000,000 of people who as yet have no motor car of any sort. The 10 to 15 horsepower car of good English make will climb any hill in Turkey if placed in well-trained hands. Here, again, is a point which must not be lost sight of. No one is quicker to pick up engineering than the Turk or the Greek, and there are any number of young men here who could be turned into competent chauffeurs in a few days.

ROADS IN EUROPEAN TURKEY.

The roads in Constantinople are badly paved. The streets of Galata and Stamboul can be traversed only at slow and careful pace, and this will be the case until the public grows accustomed to the horseless vehicle. The swarms of carriages plying for hire would astonish even the promoters of the numerous taxicab companies in London, and if some of these enterprising gentlemen

would spend a fraction of their promotion profits in this city they would reap a rich harvest. The roads outside the city on the European side afford an excellent run to the Sweet Waters of Europe, with a stiff hill to climb coming back—a hill, however, which an English car would delight in leaving its mark upon. To this spot the whole of the pleasure-loving section of the population goes on Fridays and Sundays. One meets thousands of carriages containing richly attired ladies who, could they but have the chance, would possess themselves of an English car.

The return route to Constantinople is through Chicili, a residential quarter. Subsequently one passes through Nichantache, where many wealthy Turks have their dwellings, and in this neighborhood the roads are quite good, as also they are along the shores of the Bosphorus. On the Bosphorus there is a sprinkling of motor boats, but, save one or two small ones, none are of British make, I regret to say. The road continues to be favorable as far as Bebek, the residence of the Khedive of Egypt, where it deteriorates, but from Stenia there is lovely running through the great summer embassy quarter of Yenikeuy and Therapia, and miles farther to the mouth of the Black Sea at Kavak. Thence one can drive along the top road to the city again. None of the roads mentioned are too rough for motoring, and it is only in a few places that a low speed is necessary. From the city, in the direction of Europe, the roads are a little rough to Macrikeuy, but from Macrikeuy to St. Stephano, where the peace treaty of Russia and Turkey was signed, and on to the lovely gardens that abound at Tchekcheme and the interior of European Turkey they give rise to no complaints.

ROADS IN ASIATIC TURKEY—MOTOR BOATS.

As to the Asiatic side of the Bosphorus, there are long stretches of good road from Haidar Pacha to Moda, and on to Fanaraki and Erenkeuy, and, indeed right along the side of the Gulf of Ismit for about 60 miles. Another satisfactory route near the city is the one to Tchamlidja and the forest of Allemdagh, where one is able to enjoy lovely scenery and macadam roads.

The main roads I recommend are from Samsun to Sivas, a distance of over 217 miles; Sivas to Diarbekir, in Mesopotamia, 295 miles; Trebizond to Erzerum, 202 miles; Angora to Yosgat, 143 miles; Sinope to Bayabad, 75 miles; Kastamuni to Kraugueri, 77 miles; Aintab to Aleppo, 102 miles; Adalia to Burdur, 84 miles; and Panderma to Edremid, 125 miles. All these roads are tolerably easy, with even surfaces; the bridges, which are either of stone or iron, are safe for heavy motor tractions, and there are not many severe inclines—none worse than 1 in 7, and very few as bad as that.

Sending a motor boat to Constantinople for trials, and as a sample, is the way to secure the trade—and the only way. A Turk will buy the craft he sees. If reliable motor boats are exhibited in Turkey they will sell without difficulty.

Two important inland towns have formed companies for the purpose of running buses, and a French company is sending a sample omnibus in the hope of obtaining orders.

CONDITIONS FOR AMERICAN TOURS.

In addition to what has been said in the foregoing article, a few remarks in regard to the conditions for automobiling in the vilayet of Smyrna may not be amiss. At present the condition of the country roads is unfavorable, but it is said, on good authority, that a network of roads encompassing all the districts of the western and southern part of Asia Minor, and connecting up the main cities and villages therein with the seacoast, will soon be commenced, a work which will take many years to complete. There are but four automobiles at present in Smyrna.

Apart from a few roads connecting the city with some of the suburban towns, automobiling is not a pleasure in this part of the country, and the same applies to the city itself, for the reason that, with the single exception, perhaps, of the broad thoroughfare along the quay, the narrow streets are so crowded with wagon and camel traffic that it is next to an impossibility for even small motor cars to pass with ease. The roads in the interior of the country are rather

better than those in the vicinity of this city. In the Mæander valley and at the headwaters of the river which bears that name many fairly good roads may be found. However, these are 200 miles away; and unless a motor car should be sent by rail, it would be practically impossible to reach them.

Several inquiries from ardent American automobilists and motor cyclists have been received at this office as to the possibility of easily reaching the ruins of the ancient cities of Ephesus and Pergamus from Smyrna. These inquiries must be answered decidedly in the negative. These two roadways in particular are the worst in the country. Since the building of the railway to Ephesus the country road has fallen almost into complete disuse, except for camel caravans. The journey to Pergamus must be made either by rail or by sea. There are good country roads from Dikili, the seaport town of Pergamus, and from Soma, the terminus of the railway, to the ancient ruins. In either case the distance is about 20 miles by carriage or horse.

It seems to be the general opinion that an early and comprehensive beginning will be made in road building, and that American manufacturers of automobiles will have a broad outlet for their products in this field, and the necessity of getting agents at work here, just as soon as possible, can not be impressed upon them too forcibly.

PALESTINE.

MOTOR BOATS ON THE DEAD SEA.

In reply to an American correspondent, as to the possible openings for motor boats in his district, Consul Thomas R. Wallace, of Jerusalem, writes:

The Dead Sea is a government monopoly, and at present is leased out to a small native company. They have a wooden boat built for a sailing vessel, but about six months ago had a motor put in it. If this company succeeds they might try a couple more motor boats. The Dead Sea is one-third solid matter, the greater part of which is salt, and the question to answer is, Can the hulls stand the action of this salt water?

People in this country are not wealthy enough to afford a motor boat for pleasure only, and as no one would be allowed to use one on the Dead Sea, Jaffa is the only possible market for boats in this district, and the outlook there is not at all promising.

The Jordan Valley, the river, and the Dead Sea are the personal property of the Sultan. A permit must be first obtained from the Sultan before boats of any kind can be launched thereon. Such permits have heretofore been very difficult to procure for motor boats.

ALGERIA.

OPENING FOR MOTOR OMNIBUSES IN BONE AND NEIGHBORHOOD.

The following is an extract from a recent report from the British vice-consul at Bone concerning the opening for motor omnibuses in that part of Algeria:

Motor cars do not abound in the district on account of price and the cost of upkeep, but there is good scope for motor buses on the roads to those villages untouched by the railway, for the purposes of conveying the Arabs to the mar-

kets. There are markets within a radius of 60 kilometers (37 miles) on nearly every day of the week, and good business should result. The roads generally are well built. A speed of 10 to 12 miles per hour would be ample, and the buses should be strong vehicles capable of seating 30 to 40 people. At present the traffic is in the hands of Maltese and Arabs, who run ramshackle brakes and worn-out diligences, which they load to breaking point.

TRANSVAAL.

OPENING FOR ENLARGED SALES OF AMERICAN AUTOMOBILES.

Vice-Consul Herman A. Loeser, of Johannesburg, furnishes the following information concerning the use of automobiles in the Transvaal, and the opportunity which that market offers for an enlarged sale of American machines:

The use of automobiles in the Transvaal is practically restricted to the two large towns and surrounding districts of Pretoria and Johannesburg, these cities containing 25,000 and 84,000 whites, respectively. There are about 800 motor cars in use in Johannesburg, principally of British, French, German, and Italian make, but including a number of American cars. The class of car varies from 6 to 40 horsepower, and in price from $1,250 to $5,000 or $6,000, but the car for which there is the best market is one the price of which runs from $1,250 to $1,750, with between 10 and 18 horsepower.

The streets in the towns are fair, and the country roads, generally speaking, are about as good as in the United States. There are a large number of automobile dealers in the two towns mentioned, all of whom have garages equipped for the care and repair of cars. The credit system applies in the auto industry to a limited extent only, and is probably not as extensive in regard to this particular trade as in regard to trade in general.

There is no reason why a larger trade in American cars should not be done in this country, as there is nothing in the conditions of the country that would make American cars unsuited, except that it might be advisable to equip them with accumulators, as there is a feeling among the public that dry batteries do not give satisfaction at the altitude and in the climatic conditions of parts of the Transvaal.

To introduce a particular American car, however, a good deal of credit would have to be given to an agent, so as to give him an opportunity to demonstrate the value of the car, before he could order on the basis of cash against bill of lading.

BRITISH INDIA.

AN INVITING FIELD FOR AUTOMOBILE MANUFACTURERS.

Consul-General William H. Michael, of Calcutta, reports as follows concerning the increasing use of automobiles in British India:

The increase of motor cars throughout India and the need of qualified drivers for them suggested the desirability of giving thorough instruction on this line in the Bengal Civil Engineering College, at Sibpur, which was undertaken nearly a year ago. Now the government of the United Provinces has sanctioned a whole-time instructor in motor-car work and management of such cars in the Roorkee Civil Engineering College, in that province.

India is rapidly becoming an inviting field for manufacturers of automobile and motor cars, and it seems strange that American manufacturers are taking no practical interest in the awakening. European automobiles are seen everywhere in India, but the American car is completely absent. There is a fair field here for automobiles, and American manufacturers should enter it before European agents get full possession. Catalogues, however attractive, will not suffice.

Thirteen motor cars and motor cycles were imported into Calcutta during July, 1908, valued at $17,142. Two came from Antwerp, one each from Singapore, Genoa, and Bombay, and the rest from England. The growing popularity of the motor car in Calcutta is evidenced by the fact that the total number of motor cars, in respect of which drivers' tickets have been issued, up to March 31, 1908, was 567, as against 394 on the same date last year. Of these, however, only 269 are taxable. Thirty-one are exempted under section 188 of the municipal act, 111 are not kept in Calcutta, 149 are not in use, while 7 are not assessed, being steam lorries.

CANADA.

ADMISSION OF TOURING AUTOMOBILES INTO THE DOMINION.

Consul Charles A. McCullough, of St. Stephen, New Brunswick, reports that automobiles for touring are admitted into Canada under the following restrictions:

The tourist must deposit with the collector of customs at the port of entry a certified check equal to 35 per cent of the value of the automobile and its commercial contents. The value is made up by the tourist. This allows the value to be made up and a certified check obtained before leaving home, thus avoiding delay at the port of entry. Upon receipt of the check the collector gives the tourist a certificate. When this certificate is surrendered the check is returned.

Should the tourist depart from Canada from a port other than that at which he entered he must have the stamp of customs authorities at port of exit affixed to his certificate, and upon receipt of it by the collector at the port of entry the deposited check is mailed to the tourist. [The printed form for deposit on tourist's outfit is on file in the Bureau of Manufactures.]

MEXICO.

USE OF AUTOMOBILES AND MOTOR BOATS IN YUCATAN.

Vice-Consul R. A. Williams, of Progreso, furnishes the following information concerning the use of automobiles and motor boats in Yucatan:

About three and a half years ago Yucatan, or rather Merida, the capital of Yucatan, offered a splendid field for the sale of American automobiles. There were then 200 licensed private automobiles in operation in that city. In Progreso and the inland towns these vehicles have never been used to any appreciable extent, because the people can not afford such luxuries. Although Merida is probably one of the best-paved cities in Mexico, the roads in the other sections of the State are still unsuitable for automobiles. Public automobile *veyances have* never been introduced here, and even in the epoch

of greatest prosperity in Yucatan probably would not have been a success. Cost of fuel, repairs, supplies, etc., of the automobile would always have given the small, one-horse cabs, of which there have been about 450 in operation in Merida at one time, a great advantage.

The business crisis through which Yucatan is still passing can not, perhaps, be more graphically illustrated than by the enormous decrease in the use of automobiles. While there were 200 automobiles in use about two and a half years ago, to-day the tax records show that the number of these vehicles now in commission does not exceed 35. Many of those not in use still remain in Merida, stored away, to be brought to light, perhaps, when financial conditions improve; others are being shipped to various parts of the Republic for sale, while those that remain can probably be purchased for one-fourth of their original cost.

The American automobile predominates and has, on the whole, given very satisfactory results. There are possibly five or six machines of French make, but outside of this the American manufacturers seem to have monopolized this market. American motors appear to require less frequent repairing, which, in Yucatan, is very expensive and unsatisfactory, so that the machine making it necessary soon becomes unpopular. The cost per month for maintaining an ordinary touring car seating four or five persons, including garage, fuel, lubricant, repairs, and municipal taxes, amounts to about $90 gold. The tax is $6, gasoline from 39 to 44 cents per gallon wholesale, garage about $15 per month, and a set of tires, which will last about six months, about $100, all gold values.

MOTOR BOATS.

The condition that prevents the use of motor boats in Yucatan is that there are no lakes, rivers, or inland waterways of any kind in the State. The so-called port of Progreso is an open roadstead, with absolutely no protection, and the shallow water causes a heavy sea to be running continually, except when the wind is off shore, which is a rare occurrence. The consequence of this condition is that all the boats used in Progreso must be very seaworthy and capable of standing hard usage. Small pleasure craft, especially motor boats, do not, as a rule, fill these requirements. There are several small launches owned in the place, but they are at present, and have been for several years, dead property on the hands of their owners, owing to their inadaptability to meet the natural conditions of the port.

The Mexican Government now has under consideration a project for the formation of an artificial port, or at least the construction of a breakwater here, and if this project is carried through, there will doubtless be opened a market for motor boats, otherwise it is out of the question to push the sale of these craft in Yucatan.

ARGENTINA.

REGULATIONS GOVERNING THE USE OF AUTOM

Consul-General Alban G. Snyder, of Buenos Air rep as follows concerning new ordinances covering the use of capital of Argentina:

These ordinances were rendered nec y ber of motor cars, both for private conve

which are more noticeable here than in other cities, owing to the narrow streets and congested state of traffic. Experienced drivers are given a fairly free hand as to speed, but must satisfy the authorities that they are competent by passing a suitable examination. They are also required to carry a duplicate pass book, containing their license, and blank pages, on which any accident or carelessness is to be recorded by the police. Persons under 18 years of age are only permitted to run cars up to 12 horsepower, and this only after passing a satisfactory examination.

No mention is made of this regulation being applicable to private owners driving their own cars, it being assumed, for the present, that they will naturally avoid taking any risks tending to damage their own persons or property. As to the cars themselves, they must be provided with nonslipping tires. The acetylene searchlight is prohibited in the center of the city. Efficient brakes must be used, and are to be tested at regular periods, and the automatic and similar whistles are absolutely prohibited, the usual horn alone being compulsory.

COLOMBIA.

AUTOMOBILES AND FREIGHT MOTORS IN THE REPUBLIC.

In answer to inquiries, Consul-General Jay White, of Bogotá, reports as follows concerning the use of motor cars in Colombia:

Six automobiles only are known to be in Colombia, and of these six machines, but three are at present in commission; two of the six are in stock not sold. Gasoline costs $1 per gallon. It is claimed that at the altitude of Bogotá, over 8,500 feet above the sea, at least 25 per cent of the power of a machine is lost, owing to the diminished atmospheric pressure.

A concession has been granted to a citizen of Bogotá, giving him the exclusive right to operate freight automobiles on all cart roads now constructed in Colombia. The total mileage of these roads is not extensive, however, being confined largely to the vicinity of the cities and towns. A French citizen has a concession to use motor freight wagons on the Cambao cart road now building. The addresses of possible importers are transmitted. Merchants ask six months' credit. Automobiles are classed in the second class of the Colombian tariff, and pay 1 cent per kilo (2.2 pounds). [The addresses mentioned are on file in the Bureau of Manufactures.]

URUGUAY.

BICYCLES, AUTOMOBILES, AND MOTOR BOATS IN THE REPUBLIC.

Consul F. W. Goding, of Montevideo, reports as follows concerning the public prejudice which exists in Uruguay against American motor cars, how to overcome this, and introduce both automobiles and motor boats:

Three years ago not a motor car was to be found in Uruguay, but according to the official inspector of vehicles there are now 138 in use. With the exception of perhaps four, none are American. There is a very strong prejudice against American-manufactured motor cars, owing to the dissatisfaction created about twelve years ago by the sale of some 300 inferior-grade bicycles, which were sold as high-

grade machines. These wheels were of the cheapest class, and proved wholly unfitted for the roads and pavements of this Republic. The man who sold them brought the wheels with him, advertised them largely, and represented them as being equal to the best foreign makes. The rough pavements made short work of the tires and ruined the gearing, so that at the present time not an American-made wheel is to be seen.

Three years ago two American-made motor cars were landed here. Although every effort was made to sell them, the people merely said "They are like the bicycles," and refused to buy. Eventually one, a $2,500 machine, was auctioned off for $700, the other, a smaller car, brought $150, there being but one bidder for each.

There is a good field here for the sale of motor cars, but before American cars can gain an entrance the prejudice against them must be overcome. This can be done only by sending the best cars here, with first-class chauffeurs to drive them, keep them running by the side of those made in Europe for at least one year. If they can prove their equality with other makes, business doubtless will follow.

There are 22 motor boats used in the harbor, 1 driven by petroleum, 6 by electricity, the remainder by gasoline, with a speed of about 4 to 5 knots. The motors were all made in Germany and France. To introduce American-made motors a fully equipped boat, about 36 feet in length, with a speed of not less than 8 knots, and fitted for passenger traffic, should be sent here and kept in use in the harbor to properly advertise it. Such an effort, in the judgment of competent men, would insure the sale of American motors. New boats are being built, but fitted with motors of European manufacture. If American-made motors are properly introduced, there should be a permanent market for them. [A list of the addresses of dealers in motor cars in Montevideo is on file in the Bureau of Manufactures.]

NATAL VEHICLE IMPORTS.

DECREASING MARKET FOR GOODS OF FOREIGN MANUFACTURE.

In answer to inquiries, Consul Edwin S. Cunningham, of Durban, furnishes the following report concerning the present condition of the trade in carriages and wagons in Natal:

There has been so marked a change in this trade within the past few years that American manufacturers may well revise their former opinions in regard to the demand for American vehicles. Some years ago there was a fairly large and steady demand for American carriages and wagons, and the dealers state that the goods imported, as a rule, gave satisfaction to the buyers. There were complaints about the short life of some of the lighter types of carriages on the rough roads in the country districts, but on the whole the American vehicle obtained and retains a good reputation here.

The following incident illustrates the experience of some of the purchasers of American conveyances: A farmer called upon one of the largest dealers recently and asked to be shown some of the carriages of a certain American make which had been stocked by that particular firm years before. He said that he had bought a carriage of this make twenty-five years ago, and as it was becoming rather shabby he would like to buy another.

When such excellent opinions are entertained of the American carriage there must be some strong reason for the decline in demand, because in the ordinary course one might logically expect to find a growing trade. But the following statistics will show that a heavy decrease is occurring: In 1906 the imports of carts and carriages into Natal from the United States amounted to $48,942, and in 1907 to only $19,004. The generally depressed state of trade may be ascribed as the cause of a part of the decline indicated in these statistics, but that does not account for the whole falling off. The first and chief cause of the decline is the high duty upon imports (25 per cent ad valorem), and this, augmented by the expensive transmission by sea, has acted as an effective stimulus to local manufacturing, with the result that now a large percentage of the vehicles used in the colony are the work of Natal builders.

Several firms in Durban and a greater number in Pietermaritzburg are engaged in turning out a variety of vehicles, which are designed to meet the needs of the country. The articles so manufactured are not as a rule very elaborately finished, and they are certainly heavy, but they are much cheaper than anything that could be imported, and as they do all that is required of them it is not surprising that they are gaining a firm foothold in the local markets. Another matter which plays a large part in the diverting of the carriage and wagon trade to Natal is the fact that the builders are content to produce a vehicle at a price which allows them no profit over and above their day's wage.

When there is a revival of business in the colony, these conditions will no doubt be somewhat altered, but it does not appear that there is any likelihood that the bulk of the trade will be wrested from the local manufacturers, however prosperous the country may become, except of course in the case of expensive carriages, and these when imported are generally bought direct from the manufacturer oversea through a commission house.

AGRICULTURE.

FARM IMPLEMENTS.

BRAZIL.

PERMANENT FARM-MACHINERY EXHIBITION IN STATE OF PARA.

Consul George H. Pickerell, of Para, gives the following information relating to a permanent exhibition of agricultural implements and machinery to be established for the purpose of encouraging modern farming methods in Brazil:

Herewith are submitted prospectus and letters received from the Syndicato Industrial Agricola Paraense, with headquarters in this city, in regard to a permanent exhibition of agricultural machinery that it is the society's intention to establish in June, 1909. The men behind this movement represent the largest and most important landed interests in this State. For years most of the society's members have realized that something should be done to awaken an interest in matters agricultural, but it was not until this year, with its unprecedented low prices for rubber, that the matter has been forced upon them in such a way that they can no longer ignore it.

Outside the confines of the State institutions of Para and Amazonas there is not a carload of agricultural machinery, and in the two States the use of the same is practically unknown. Even among those who are more familiar with the subject, through having read the articles and advertisements in the local and foreign agricultural magazines, the greatest misconception exists as to price and its value as a means to produce cheaply. To remedy this condition and in a measure to clear away the false ideas that exist in the minds of the farmers as to cost and benefits to be obtained by the more general use of farm machinery the society has started a small monthly magazine, which they distribute to their members and in which the different subjects interesting to the farmer are discussed. While this magazine will no doubt be productive of much good and, together with the several American publications that circulate here, help to keep awake the interest produced, it is still necessary that something tangible should be shown; something with which actual experiments can be made and the results written about. To do this it has been deemed necessary to establish a permanent exhibition.

EXHIBITS TO BE DONATED—PROMPTNESS ESSENTIAL.

To free the members from any future embarrassment they have wisely decided that the machinery contributed shall be the property of the society. Under these conditions they will be free to transport it to any point necessary to give demonstrations and be free from any responsibility for breakage, wear, and exposure. They recognize that this means a sacrifice to exhibitors to begin with, but they realize that it will also cost money and time to exhibit and demonstrate its use, and they trust that the results will be beneficial alike both to the donators and the demonstrators.

The state of Para can and will in a few years be made to produce almost everything that she needs in the way of farm and garden products. At present she is importing largely such things as hay, potatoes, cabbage, tobacco, onions, rice, and beans, besides a host of other things, all of which can and should be produced here. The point important to American manufacturers is the proportion they are going to furnish of the necessary machinery.

This is a question that the manufacturers must decide for themselves, and they must decide it quickly. The benefits of this exposition will accrue to the country that gets in first and makes the best impression. The Brazilian is a man of sentiment, and a sentiment once established is seldom changed. It matters not how many circulars are sent out, how much better made, cheaper, or more useful your machinery may be, he will remain true to his first impressions. This is, I know, difficult for our practical people to understand, but it is true, as I have reason to know from personal experience. An account once opened is seldom closed. European competitors understand this characteristic and never turn down a first order, no matter how small nor how many conditions are attached.

PROPER ACTION NOW MEANS LARGE SALES IN THE FUTURE.

Intending exhibitors should combine on or send their individual experts to conduct and supervise experiments. These experts should be able to speak the language of the country, which is Portuguese, not Spanish. Our manufacturers should also remember that this invitation has been sent to every European country that is a maker of agricultural machinery, and that they will be represented by people familiar with the characteristics and language of the people. This is no case of immediate carload orders. It is simply a chance to do a little work the results of which will be reaped in the future. Heretofore, the profits in gathering rubber have been so great that it paid the fazendeiro to import even the simplest things, and, as a consequence, matters agricultural have been, if not altogether neglected, confined to what could be raised with the least expenditure of manual labor. Conditions now are different. Rubber will still continue to be gathered, but the profits of that article will be so reduced that the country can no longer afford to import. They must produce at home the necessaries of life if they are to compete with other centers where labor is cheaper and where scientific planting permits that same labor to harvest a greater amount per man. One of the main reasons why experts should be sent is to prevent the purchasing of machinery not adapted to the situation. Such purchases are always a hindrance to trade. It might repay some company or corporation to establish an experimental farm where continuous demonstrations could be given and results shown. Once the farmer is convinced and instructed in the proper way to handle this machinery he will be a good customer, and what is better, he has the characteristics of always remembering his benefactor. The following announcement is made by the board of directors:

INSTRUCTIONS TO EXHIBITORS.

In organizing this exhibition the Syndicato Industrial Agricola Paraense has in view: (1) To acquaint the local agriculturists with machinery, utensils, and implements employed in preparing the soil and improving the products thereof; (2) to give lucid information regarding prices and the manner in which to acquire any of the said implements; (3) to give full and detailed explanations

regarding economical benefits to be gained by the adoption of agricultural machinery; (4) to give practical lessons as to the manner in which to handle the machinery; (5) to advise and insist upon all agriculturists adopting mechanical labor instead of manual.

The syndicato will only undertake to exhibit machinery and utensils that can be used practically. In other words, no miniature models will be received. Each machine must be accompanied by detailed instructions as to its erection and manipulation. On some prominent part of each machine or in the catalogue should be clearly given the following details, either in French, Spanish, or Portuguese: Name of exhibitor or manufacturer, selling agent, shipping port, f. o. b. price, selling terms, and discounts.

All expenses, including freight, dispatch, custom fees, etc., to be borne by the exhibitors or owners. In order to reduce custom fees, all machinery and utensils should be declared in shipping documents as SAMPLES and directed as follows:

MARK $\frac{S\ I}{A\ P}$

Syndicato Industrial Agricola Paraense No. 13, Rua 13 de Maio, Para, Brazil.

The syndicato will not hold itself responsible for any losses, damages, delays, or accidents whatsoever which may occur during transport of any of the articles sent for exhibition.

The exhibitors are expected to supply the syndicato with photos or colored designs of a fair size, say, 50 by 50 centimeters, or even 1 by 1 meter, of the articles exhibited. They should also supply the respective cliches (electrotype) for the purpose of inserting advertisements in their periodical termed "Lavoura Paraense."

All machinery, implements, utensils, photographs, designs, cliches, etc., received by the syndicato for exhibition shall become its entire property, and the said syndicato will undertake to make a propaganda of all these articles gratuitously among the principal agricultural centers of this State.

In any instance where a manufacturer wishes to place on exhibition any new article or improvement on that previously sent, he shall be granted the same terms as herein described. The syndicato undertakes not to sell or dispose of, in any form whatsoever, the articles intrusted to its care for exhibition. All expenses in organizing this exhibition and carrying out the proposed propaganda will be borne by the syndicato. This permanent exhibition is to be inaugurated on June 22, 1909.

[There is on file in the Bureau of Manufactures a detailed list of implements solicited for exhibition.]

CHINA.

GROWING INTEREST IN AMERICAN TOOLS AND APPLIANCES.

Consul Jacob E. Conner, of Saigon, who is endeavoring to interest the agriculturists of Cochin-China in American farm tools and machinery, writes as follows:

If American manufacturers of agricultural implements were to send a shipload of goods to visit the ports of French Cochin-China, Siam, Burma, Java, and the Philippines, more effective means of advertising could not be contrived. Within the next twelve months they ought to send a shipload of plows, harrows, disk cultivators, reapers, threshing machines, wind pumps, ditching, dike, and grading machines, and others that might be mentioned. I believe they could take orders for machinery that would cover the greater part of this amount. There is no use sending catalogues, people do not want to buy from them even if in the language of the country. What they want to see is the goods, and they want to see them tested if possible.

The writer took the matter up with the lieutenant-governor of Cochin-China, and he not only enthusiastically indorsed the plan,

but promised that the tariff regulation would not stand in the way as to the bringing in of sample machines, and that the Government would do all in its power to encourage it. This means a great deal. I understand that some two hundred or more Illinois manufacturers and merchants will leave the United States for the Orient shortly. That is good. They will undoubtedly be impressed with the Orient, and why should they not make an impression on the Orient by the exhibit of their goods?

As to the sale of agricultural implements in Cochin-China, the field is more promising than I had supposed, there being a large number of French agriculturists engaged in farming who have called at this consulate and expressed their lively interest in the exhibit of American farm machinery as suggested, and it is also stated that there is more available capital among the natives than was supposed. Especially is there interest in the implements used in the United States for the cultivation of rice, and a newspaper of Saigon has called attention to the fact that the board of agriculture of Cochin-China has just published a report on rice culture, by Dr. M. A. Knapp, an American, issued some years ago in the United States.

SIAM.

RICE HARVESTERS NEEDED ON ACCOUNT OF INCREASING LABOR COST.

Consul-General John Van A. MacMurray, writing from Bangkok, says that there seems to be an opportunity for the introduction into Siam of agricultural machinery adapted to the conditions under which rice is grown there. He depicts present conditions and needs as follows:

So far, even the owners of large estates have not extensively used any such machinery; but the increasing expense and scarcity of cooly labor are forcing the introduction of more economical methods. The most favorable opportunity is for reaping machinery, as reaping by manual labor now costs about $3.75 per acre. The reaping machines for this purpose must be lightly constructed so as to operate over exceedingly soft ground, and must be able to work upon fallen as well as standing rice.

But the self-binding reaper has not been found wholly satisfactory, as the bundles are loosened by the very great shrinkage of the rice as it dries. It is therefore suggested that a stripping machine, which would also thrash and winnow at the same time, would be better suited to this work. The strippers used in America for wheat are, of course, too heavy to be operated in the mud of the paddy fields; but it is understood that a lighter type of stripper is being successfully used for this kind of work in Australia. Such a machine should find a market of increasing importance in Siam.

The larger landholders will desire a reaper with at least a 6-foot cutting surface, or a stripper of similar size, to be operated by power; motor tractors of English make, of 50 horsepower, burning kerosene, are now being introduced for that purpose. The owners of less extensive farms will desire much smaller machines, each to be operated by a pair of bullocks or water buffaloes. These machines must be especially light and easy running, as the drawing strength of either bullocks or buffaloes is much inferior to that of horses.

DAIRY INDUSTRY.

SPAIN.

NATURAL RESOURCES PROVIDE EXCELLENT HUSBANDRY FACILITIES.

Consul-General Frank D. Hill, of Barcelona, furnishes the following report by the consular agent at Santander on dairying in northern Spain:

The Cantabrian slopes are exceptionally well suited for dairy farming; the narrow coastal strip along the Bay of Biscay is cut off from the Castilian table-lands by a range of steep mountains, and the numerous valleys are watered by many springs swelled by frequent rainfalls, so that hay of a very good quality grows there with scarcely any cultivation, and may be had in large quantities.

It is customary to cut the hay only once a year, in June or August, and then turn the cattle into the grounds to feed during the autumn and winter months. In summer time numerous droves of cattle, many of them coming from other districts, are guided up to the high ridges of the mountains as soon as the ground is free of snow and kept there for ten or twelve weeks; feeding there is abundant and very fine grasses grow spontaneously in the hollows of the rocks.

Cattle is the staple of this district, sheep being few in number, as the moist climate is not suitable for raising them. No reliable statistics as to the number of animals or milk production are available, and the figures given by experts are only guesses and differ widely. Some show a production of 20,000,000 hectoliters (528,000,000 gallons) of milk, an amount very much exaggerated; perhaps one-fourth of this amount would be nearer the truth.

The leading obstacle to the development of cattle raising in this district is the lack of capital. Few farmers own more than twenty or thirty cows, the majority of peasants possessing only one or two. Some people put money into the business, but do so on burdensome terms, for, as compensation for their loaning the money to pay for the cow, the peasant must tend and feed the animal, while the proceeds are to be equally divided.

DISPOSITION OF MILK.

Milk forms generally the basis of food for the farmer and his family. Those living near towns take it in its natural state to market, and a very small proportion is left for making cheese and butter. The methods employed are quite primitive. Some creameries have been established in Asturias [a list of which is filed with the Bureau of Manufactures].

Special kinds of cheese manufactured in this region, notably Cabrales, a kind similar to Rochefort, have a ready sale in Spain, such being equally the case with butter made in Asturias and Santander. Some parcels of these products (about 80 tons, valued at $34,500) find their way to Cuba and Mexico annually. Milk is sold at about 0.2 peseta ($0.04) per liter (.908 quart) or 90 centimos ($0.16) per gallon; butter at 2.5 to 3 pesetas ($0.44 to $0.52) per kilo (2.2 pounds).

Very few cream separators are in use in this district, those existing being of French and Belgian manufacture. It is not easy to place cream separators here, except in very small numbers. The best way

to introduce them would be to send several illustrated catalogues, in Spanish, to firms in this district handling such articles [list of which may be obtained from the Bureau of Manufactures]. Machinery is usually sold at 90 days against bill of lading. There is no objection or prejudice against the sale and use of cream separators on farms.

IRELAND.

YIELD PER COW LOWER THAN IN MOST OTHER COUNTRIES.

Consul Alfred K. Moe, of Dublin, furnishes the following information concerning the milk yield of Irish cows:

Up to the present the records of milk yields have not been systematically kept, save in special cases. According to statistical returns there were 1,560,000 cows in Ireland in 1907. This includes animals of the most varying classes and quality; a considerable number did not yield 300 gallons of milk, and for a very much larger number the yield did not reach 400 gallons, in 1907.

On the other hand, returns show that there are cows in Ireland with milk records which compare with the best of other countries. In the record kept in connection with the dairy herd-book there are several cows which have yielded exceeding 1,000 gallons each, and in one case the very high record of 1,469 gallons was recorded for the period of 47 weeks in 1907, the cow being still in milk at the end of the year. In two other cases the record showed 1,200 gallons, in each case, for an incomplete lactation period of 40 weeks.

Taking all classes of cows into consideration, it is doubtful if the average of the whole country exceeds 400 gallons per annum; some would place it as high as 400 gallons, while others again would place it at high as 450 gallons.

CANADA.

FACTORY BUTTER AND CHEESE PRODUCTION.

Consul Franklin D. Hale, of Charlottetown, supplies the following comparative statistics of the Canadian dairying industry:

	1900.	1907.
Butter and cheese factories	3,576	3,516
Value of plants	$6,164,649	$8,126,505
Working capital		$1,406,787
Number of employees	6,886	6,352
Salaries and wages	$1,464,110	$1,719,978
Butter made ... pounds	36,066,739	45,930,294
Value of butter	$7,240,972	$10,949,062
Cheese made ... pounds	220,833,269	204,788,583
Value of cheese	$22,221,430	$23,597,639
Total butter and cheese ... value	$29,462,402	$34,546,701
Condensed milk and cream made ... pounds		12,176,135
Condensed milk and cream ... value	$269,520	$910,842
Total value of butter, cheese, condensed milk, and cream	$29,731,922	$35,457,543

The increase of butter in quantity was 27.35 per cent, and in value 51.21 per cent. The decrease of cheese in quantity was 7.83 per cent, while the increase in value was 6.19 per cent.

The decrease in number of factories and employees is accounted for by the fact of consolidation. The increased production would naturally imply a larger number of factories and employees. Climatic

and feed conditions during the year 1907 prevented a more favorable showing in statistical comparison.

The average price of butter for 1900 was 20 cents per pound against 24 cents for 1907. The average price of cheese was comparatively 10 and 12 cents for the two periods.

The four condensed milk and cream factories in Canada in 1900 had increased to seven in 1907, one of which is located in Prince Edward Island. In 1907 these seven factories employed 234 persons at a cost for salaries and wages of $91,897. They produced 10,334,485 pounds of milk and 1,841,650 pounds of cream; total value of the product was $910,842, an increase of 238 per cent. In 1900 the imports of these articles into Canada from all countries amounted to 2,593,308 pounds, valued at $254,176. In 1907 the corresponding figures were 71,647 pounds, valued at $4,846. In 1905 (figures not given for 1900) the exports amounted to 3,444,837 pounds, valued at $257,565, and the corresponding figures for 1907 are 686,539 pounds, valued at $46,041. These figures show to what extent the home production is supplying the home market and the home market is consuming the home production.

In the maritime provinces butter production has increased in New Brunswick and declined in Nova Scotia and Prince Edward Island, as the following figures show:

Article.		New Brunswick.		Nova Scotia.		Prince Edward Island.	
		1900.	1907.	1900.	1907.	1900.	1907.
Butter	pounds	287,814	969,167	334,211	198,258	562,220	358,422
	value	$58,589	$231,102	$68,686	$49,047	$118,402	$89,339
Cheese	pounds	1,892,686	1,205,773	568,147	181,956	4,457,519	2,250,316
	value	$187,106	$146,720	$58,321	$22,066	$449,400	$251,410

In Prince Edward Island there were in 1900 47 butter and cheese factories, while in 1907 there were only 43. Of these, 8 made butter only, 20 made cheese only, and 15 made both butter and cheese. The total value of the plants was $112,819; working capital, $34,480; persons employed, 119; salaries and wages, $25,002. Officials in the provincial department of agriculture think the figures for 1908 will be more favorable for the development of the dairy interest of the island.

CEYLON.

ISLAND OF CEYLON NEEDS THE MODERN AMERICAN CONTAINER.

Vice-Consul W. H. Doyle, of Colombo, in stating that in Ceylon there is an evident need of the American clasp-covered or wafer-stopped milk bottle, points out the reasons therefor:

While such a bottle is unknown here at present, it is easy of belief that the presentation of its merits to the milk-consuming public would immediately result in its adoption. Typhoid fever is endemic in Colombo, the metropolis of the island, and its ravages are severely felt by all classes of the population. Its occurrence is frequently attributed to milk contaminated by the germ-laden dust which blows freely in the dry seasons. This year the prevalence of the disease is such that the public mind is in an anxious state, and the

appearance of any device offered with the idea of reducing the chances of infection would be greeted with approval.

There is no such thing as a real milk bottle in Ceylon at present. Bottles of all shapes are used for the delivery of milk. In no instance is a sanitary bottle stopper used, the milk seller resorting to a wad of any kind or color of paper that may be at hand as a substitute for a regular stopper.

While the introduction of the American style of bottle would probably fail to appeal with force to the native owners of the cows and buffalos furnishing Colombo, Kandy, Nuwara, Eliya, and other centers with milk, there is a sufficiently large European and Ceylonese population with hygienic training to warrant the belief that several hundred dozen American bottles would be purchased by milk consumers. The beginning of the trade would be a small one, but there is no doubt that the use of the bottle would become more general each day. Besides, the average life of milk bottles carried by native boys—for there are no delivery wagons—could be estimated at a comparatively short period, and the supply of bottles would need occasional replenishing.

Colombo mercantile houses advertise freely at their own expense their new articles of stock. A milk bottle proposition submitted to them should be accompanied by a thorough explanation of the size and type of bottle and of the benefits to be derived by the milk consumer from its use.

[The names of glassware dealers who supply the whole island through their establishments at Colombo may be obtained from the Bureau of Manufactures.]

BRAZIL.

GREAT POSSIBILITIES FOR DAIRY FARMING AND STOCK RAISING.

Vice-Consul-General Joseph J. Slechta, of Rio de Janeiro, furnishes the following report on the vast fields for dairying and cattle raising in Brazil and the opening therein for American manufacturers of dairy machinery:

Until recent years Brazil, with its vast plains, suitable for grazing millions of head of cattle, where they may flourish the year round with but little attention from their owners, has been a large importer of dairy products and particularly of butter and cheese. This is still true of the northern ports of the Republic and in those northern districts where either the climate is not such as to permit of stock raising or the attention of the inhabitants is entirely taken up with other industries.

Especially does this seem strange in view of the fact that from the earliest colonial times the inhabitants of the provinces from Rio Grande do Sul northward to the uplands along the southern tributaries of the Amazon obtained their subsistence very largely from the more or less wild herds of native cattle which they looked after in a fashion. Even to-day the meat supply of the cities of Rio de Janeiro and São Paulo is had from the herds grazing over the plains of the thinly populated and all but unknown States of Goyaz and Matto Grosso, whence the cattle are driven for more than a thousand miles sometimes to make connections with railroads, or they may be driven only a few hundred miles to be placed on river boats and

shipped by water, through the River Plate system, and then up the coast to Rio de Janeiro.

The State of Matto Grosso is supposed to have within its borders not less than 3,000,000 cattle, and Goyaz slightly less. In those States, and particularly in the former, cattle grazing is carried on upon a very extended scale by a limited number of "fazendeiros." There are several of these in the southern part of Matto Grosso with ranches hundreds of miles in extent, with herds of from 120,000 to 200,000 head.

CATTLE RAISING THE GREAT INDUSTRY OF THE NEAR FUTURE.

That cattle raising is destined to be one of the chief industries of Brazil will be seen when one remembers that none of the industries at present of most importance, with the possible exception of cotton growing, can have anything like so extended and general attention as is possible in the case of the grazing industry. With the exception of corn, grain can not be grown satisfactorily in any part of Brazil, and even corn can be cultivated only by the use of new seed from temperate zone climates every second or third year, by reason of the rapid deterioration which the grain is subject to in this climate.

The development of Brazil's two greatest crops, rubber and coffee, has been checked by great crises which threaten to permanently affect the supremacy of these industries in Brazil. The Federal Government as well as the state governments of the Republic are agitating the diversification of crops and agricultural industries, and the most significant feature of this movement is the aid extended by the Government in the importation of blooded stock for breeding purposes, in order to encourage the combination of pastoral with agricultural industries in the several States.

In practically all suitable sections of that part of Brazil south of the swampy forest lands immediately bordering the Amazon more or less cattle raising is successfully undertaken. The coast States north of the mouth of the Amazon also furnish very good opportunities for this industry. The States of Rio Grande do Sul, Santa Catherina, São Paulo, Matto Grosso, Goyaz, Minas Geraes, and Bahia have the advantage in natural resources for the proper development of the pastoral industries.

INCREASE OF THE DAIRY INDUSTRY.

Stock raising, and particularly dairying, has been given a decided impetus within recent years, not only by the imminent necessity of diversity in farming, but by the increased demand in the large cities for dairy products. Less than ten years ago it was all but impossible to buy a glass of fresh milk in any shop in the city of Rio de Janeiro. The source of the milk used by the households of the city was from cows milked at the doors of those who wished to buy. This custom is still followed to some extent even in such cities as Santos. Butter was not made here at all, being imported for the use of the inhabitants, even in the far interior. Though the use of dairy products has increased tremendously in the past decade, there has been a decrease in the amount of butter imported, amounting to nearly $200,000 in the two years 1905 and 1907. In the States of Minas Geraes, São Paulo, and Rio de Janeiro well-established dairies have been successfully operating for some years, and the product of these

is constantly increasing. The first-mentioned State is at present the largest producer of dairy products. The following figures show the exports of milk, cheese, and butter from that State in 1901, 1903, 1905, and 1907:

Articles.	1901.	1903.	1905.	1907.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Milk	5,050,500	4,865,900	9,535,200	11,221,400
Cheese	8,340,500	8,711,300	8,677,900	10,195,900
Butter	627,600	1,193,990	2,139,600	3,136,900

The greater part of these products were for consumption in the cities of the States of Rio de Janeiro and São Paulo. The State of Rio de Janeiro is now furnishing these cities an almost equal amount of milk and butter, but very much less cheese. The latter has been a very important product of the State of Minas Geraes for many decades.

OPENING FOR AMERICAN DAIRY MACHINERY.

The constantly increasing attention which is being given to the dairying industry in Brazil makes it well worth while for the American manufacturer of dairy machinery to look after the market here. Several such manufacturers are now represented here and do considerable business, but there is much to be desired in this respect. English, Swiss, and German manufacturers have the advantage of better representation and more intelligent effort to push their products in the interior. In some of the most thickly populated portions of Minas Geraes, where the dairying industry is most advanced, Swiss churns and separators are used almost exclusively, and for no other reason, apparently, than that they were the first on the market. The American manufacturer, to secure his rightful share of this rapidly increasing trade, should have a first-class representative work in connection with some reliable local firm which would take over the financial responsibility. Such a representative should canvass thoroughly such cities as Juiz de Fora, Bello Horizante, Mantiqueira, Barbacena, Palmira, and others in the State of Minas Geraes; Porto Alegre, Rio Grande, Pelotas, and many other smaller cities in the State of Rio Grande do Sul; Resende, Federal Capital, Campos, Campo Bello, and others in the State of Rio de Janeiro, and the cities of São Paulo, Campinas, and some half a score others in the southern part of the State of São Paulo.

LACK OF TRANSPORTATION AND CATTLE DISEASES.

At present the greatest obstacle to the more general and more extended development of the stock-growing industry in Brazil is the lack of means of transportation. The vast plains of the States of Goyaz and Matto Grosso are destined to some time feed the herds which will supply meat to large numbers of the world's population, but as yet these regions are entirely inaccessible to the markets of the world. The Northwest Railroad, now in construction, will be the first to tap this region, and it remains to be seen whether or not the rates established will make possible the untrammeled use of its system in the proper development of the pastoral industry, which must always be the greatest industry in that part of Brazil. By bringing the grazing lands of western Brazil within reach of the markets

in eastern Brazil, the coast cities could rely for their meat supply on that part of Brazil and thus make possible the further development of dairying in the eastern and more densely populated States of the Republic.

Stock raising and dairying in Brazil, in common with those industries in most other parts of the tropical world, have their own peculiar difficulties, different from those in temperate climates. The Brazilian stockman need not worry about the food supply for his herds, since they can graze the year round, and in most parts of Brazil there is little difficulty about water. In Bahia, however, and in the coast States north of the mouth of the Amazon there are frequent droughts of a prolonged nature, which are the cause of heavy losses to the farmers and cattle raisers. The greatest obstacle to be combated is, however, the susceptibility of cattle to disease of many kinds. The significance of the difficulties in this respect may be realized from the fact that in the State of Minas Geraes in 1905, according to the official figures, losses by disease amounted to 426,374 head, as compared with 303,918 slaughtered for food purposes.

GOAT AND SHEEP RAISING—PACKING INDUSTRY.

Cattle raising and dairying are afforded no greater opportunity for future development in Brazil than may reasonably be expected of other branches of the pastoral industries. Goat raising has for many years been carried on profitably in the northern States of Brazil. Goats flourish on the upland regions of practically all of the States from Bahia north, and the exports of goatskins from this section of Brazil are among the seven most important items of Brazil's exportation. Sheep raising has proven profitable in the States of Rio Grande do Sul, Parana, Santa Catharina, São Paulo, and others in the southern half of the Republic. The plains of Goyaz and Matto Grosso offer splendid advantages for the development of the wool-growing industry, and with the protection afforded by the Brazilian tariff to woolen goods manufacture there should be great inducement in the development of this industry.

The meat-packing industry is gradually being placed upon a modern and practical basis in the States of Rio Grande do Sul and São Paulo, and this is giving rise to the growing of more hogs than has previously been the case. The State of Minas Geraes also affords unusually good advantages in this particular, and there is on foot at the present time a movement for the establishment of a large packing plant in the capital of that State.

COLOMBIA.

SUGGESTED PROGRAMME FOR INTRODUCING MODERN APPARATUS.

Replying to an inquiry from Chicago, Consul Isaac A. Manning writes from Cartagena on the opportunity for introducing creamery and dairy supplies into Colombia:

The word "creamery" apparently has no Spanish-American equivalent; yet some cream separators have been sold in this part of the Tropics. Colombia is a wonderful cattle country, but the milk taken is simply for local consumption or for making a crude white cheese, quite common in Spanish America. In this consular district

there are thousands of head of cattle roaming over beautiful plains with plenty of pasture and forage, yet the butter consumption is very limited, and confined principally to tinned stuff bearing the Danish, French, and some American trade-marks, much inferior in quality to the most ordinary creamery butter of the United States. There is only one way of introducing separators, and that is through traveling salesmen who are willing also to demonstrate the use of these machines.

The duty on agricultural machinery is $0.034 per kilo (2.2 pounds), and on machinery for industrial use $0.05 per kilo. The usual terms demanded by American merchants are cash, but this is not calculated to advance the introduction of unknown and untried machinery. Europe grants long-time credits with better results.

A campaign of education would pay any enterprising manufacturer of things which have proved successful and are now in constant use as necessities in the United States. The preliminaries are expensive, perhaps, in the development of any trade, but there is no reason at all why Colombia should not make its own butter, supply its own imitation Flanders cheese, and thus make of its cattle industry much more than it does.

Cold storage would be necessary in this district for the manufacture of creamery products, and the cold-storage plant for which a concession was granted a year ago is just ready to open for business. Its proprietor [whose address is on file at the Bureau of Manufactures] is also considering the establishment, in connection therewith, of an oleomargarine factory, and no doubt, if he were satisfied that it would pay, he would also undertake the manufacture of creamery products if cream could be had.

It is said that there are creameries turning out excellent butter and cheese in the high district of Bogota, supplying that market.

FARMING METHODS.

UNITED KINGDOM.

ROTATION, CULTIVATION, AND VALUE OF CROPS.

The following information concerning Scotch farming and the relations between landlords and tenants in Scotland, furnished by Consul John C. Higgins, of Dundee, should prove of value to the agricultural implement manufacturers of the United States:

The consular district of Dundee includes the whole of Forfarshire and parts of Fifeshire and Perthshire, which, while having highlands useful for pasturage and game, have arable districts unexcelled in Great Britain for profitable agriculture at the hands of farmers of extraordinary ability. The farms have been cultivated for hundreds of years, but their fertility is now of the highest order, the maintenance of which, as measured in bushels and tons of highest class products, is the supreme test of good farming.

ROTATION OF CROPS.

Oats succeed grass; the "potato oat" is a present favorite. If the preceding grass has been pastured the oats get no manure, but if it was cut for hay the oats get 3 hundredweight (336 pounds), more or less, of a complete fertilizer, i. e., one containing phosphoric acid,

potash, and nitrogen. The potato oat requires 4 bushels of seed per acre; the "Abundance" variety requires 6 bushels. Yield, 50 to 80 bushels per acre, selling at from 50 to 60 cents per bushel.

Potatoes succeed oats. While there are several ways of preparing land for potatoes, the one generally pursued is to apply farmyard manure on stubble of preceding crop, during November, December, or January, averaging 20 loads per acre, equally spread, plowed down at once, and then let lie until planting time, April preferred, when, if dry and in condition for working, it is harrowed, deeply rolled, and cultivated until made soft and friable. It is then put in ridges 30 inches apart, and complete fertilizer sowed broadcast to from 5 to 10 hundredweight (660 to 1,120 pounds) per acre. Whole medium-sized potatoes are placed from 9 to 12 inches apart and the ridge reversed to cover them. A double moldboard plow is used.

In four to six weeks the plants are up. Meantime the rows have been harrowed down and put up twice to destroy weeds. This is often done with a concave harrow that hugs the ridge and maintains its shape, obviating the "putting up." Two of these harrows can be coupled together and two rows worked at once. The middles are drill grubbed when the plants are 2 to 4 inches high with a powerful narrow-toothed cultivator, to slacken and soften the soil to permit the tubers to grow. The plants are next hand hoed and again drill grubbed. They next get the final furrowing or earthing up, so that the tubers shall be well covered; ground to be worked only when dry. Some farmers apply farm manure in the drills at planting time instead of broadcast as above, and in such case the artificial manure may not always be applied so liberally.

POTATO RESULTS—OTHER CROPS.

"The Up-to-date" machine diggers are in general use. The crop is "lifted" during autumn and stored in long pits, from which it is marketed. Being a regular rotation crop the field may run as high as 40 acres. The crops run from 8 to 15 tons per acre, selling at from $7 to $20 per ton. There seems to be no flat culture. The Scotch potato has a reputation peculiarly its own. Many tons are shipped to the United States when price warrants, and they are much liked.

Wheat succeeds potatoes. No manure is applied unless it be one hundredweight (112 pounds) of nitrate of soda in the spring. A present favorite is "square head," a four-rowed, beardless, early maturing red sort, seeded in autumn. The climate being cool and equable, without hot suns, the filling goes on until a late August or September harvest. The crop runs from 30 to 60 bushels, the latter by no means phenomenal. The straw crops are invariably stacked and thatched.

Turnips succeed wheat. Ridge culture, rows 26 to 28 inches apart. Turnips are the ensilage of this country. While having a feeding value of their own, their chief and recognized value is in that their use as a food for milk, beef, and mutton production permits the heavy feeding of oil cake and cotton-seed meal, tending to large and quick results. The yield is from 20 to 40 tons per acre of the yellow turnip and from 20 to 35 tons of Swedes. They would sell for $4 to $5 per ton.

Barley on which grass seed is sown: The crops of barley reach from 40 to 60 bushels per acre. Grass after barley, yielding hay

or pasture for two or three years, completing a rotation of seven or eight years. Clover and Italian rye grass are in general use.

On dairy farms the oat crop in whole or in part may have peas added for soiling or hay.

The year 1907 was cold and wet except September; seeding and harvesting were delayed, hence this year's wheat stands thinner than usual, but well filled. Other crops indicate a good year.

RELATIONS BETWEEN LANDLORDS AND TENANTS.

Probably 95 per cent of the farms belong to the landed proprietor, from whom the farmer takes them on a nineteen years' lease. Under a recent law the tenant has the option of withdrawing at the end of seven years by giving two years' notice. The rents vary from $5 for distant farms or inferior soils to $20 per acre on good land contiguous to town. Former tenants are now landowners in some cases and many are capitalists, doing a mercantile business in live stock.

Each town has its curbstone market, where the farmers meet at least one day a week to buy and sell. They are met by those who offer implements, seeds, insurance, etc. Each town has a weekly cattle market and public auction.

AUSTRIA.

CONDITIONS LIMIT THE EXTENSION OF CORN CROP.

Responding to an Iowa request, Consul-General W. A. Rublee, of Vienna, has prepared the following review of the production of corn in Austria:

According to the Department of Agriculture the area of corn grown in Austria covered 860,410 acres in the year 1907, and on an average for the ten years 1897–1906 an area of 835,963 acres. The average yield per acre in 1907 was 1,080 pounds, and for the period of ten years 1897–1906, 1,050 pounds. The price of corn, according to the reports of the Vienna Chamber of Commerce, per 50 kilos (110 pounds) averaged in the years 1907, $1.58; 1906, $1.66; 1905, $1.86; 1904, $1.54; 1903, $1.54.

Corn is exported from Austria-Hungary only in small quantities. In 1907 the exports amounted to 3,300 tons, and on an average during the years 1902–1906, 20,020. The imports of corn, on the other hand, amounted to 111,760 tons in the year 1907, and for the years 1902–1906 to 317,020 tons. The export of corn from Austria itself is not worth mentioning. The corn crop in Austria on an average during the years 1903–1907 amounted to 451,000 tons; that in Hungary to 4,103,000 tons—about nine times as much. Corn is imported into Austria from Hungary, the amount in 1907 having been 517,000 tons.

The indigenous kinds are chiefly cultivated. Seeds are largely obtained from Hungary. The kinds known as Szekler and Banater are favored. Cinquantin and Pignoletto are also found. The American Pferdezahn (horse tooth) maize is favored as green corn, as is also a Hungarian species.

HOW USED—CLIMATIC CONDITIONS.

Corn serves chiefly as food for cattle and is much prized as a fattener. Green corn is largely grown as a food for milk-giving

animals. But corn also serves as food for human beings. In some parts of the monarchy it is used for bread, while the meal is prepared into a sort of porridge, called "mamaliga" with the Roumanians and "polenta" with the Italians. Of late the unripe ears, cooked in salted water, are growing in favor. The inland production does not come into consideration as raw material for starch and alcohol factories.

The considerable expanse of country, about 10 degrees of latitude and as many of longitude, together with the ground configuration (elevations up to 13,000 feet), cause a great variety of climatic conditions. On the whole the climate is that of central Europe, characterized by the transition from the ocean climate of the coast countries of western Europe to the continental climate of the eastern part; but the countries on the Adriatic Sea already fall within the influence of the Mediterranean climate. The mean temperature of the year fluctuates between 13° C. at Riva on the Gardasee and 0.7° C. at Vent, the highest place in Tyrol.

The differences in temperature during the year are very considerable. In eastern Galicia, the Bukovina, and in several Alpine valleys they amount to 55° and even 57° C. The mean rainfall for the several crown lands is estimated at 64 to 137 centimeters (25.2 to 53 inches); for the center of Austria-Hungary, at 74 centimeters (29.1 inches).

AVAILABLE AREA—CULTURE AND HARVEST.

On account of the rather high temperature necessary for the growth of corn (mean summer temperature of 19° C.), the cultivation of this plant must remain confined to relatively few parts of the country. It is grown in lower Austria, Styria, Carinthia, Carniola, Tyrol, Goritz, Istria, Dalmatia, Moravia, Galicia, and Bukovina. The character of the soil is manifold, hence that also of the areas on which corn is grown. Heavy and light soil will grow maize, but even inferior soil yields satisfactory crops, as, for instance, the stony bottom of the Steinfeld in lower Austria. Artificial fertilizers are not used, as a rule.

The method of planting is chiefly by gradual throwing of the seed in layers. Hoeing is generally done by hand. Very often some side vegetable is planted in the cornfields, as beans, potatoes, turnips; mostly, however, pumpkins. At present there is no general cultivation of corn carried on.

The method of harvesting is to break off the ears and to dry them in suitable places. In view of the small crops raised by small landowners, primitive hanging arrangements beneath house roofs suffice in most cases. The grains are shelled by hand or by special machines.

The prospect of growing corn in Austria to any extent is not encouraging, owing to the unsuitability in the main of the climate. The neighboring country of Hungary offers a soil well adapted for the growth of corn and supplies the deficiency in Austria. What is done in Austria in the way of corn growing is chiefly by the small landowners. The large estates take almost no share in such growth. Since last year experiments with corn are being carried on at the K. K. Samen-Kontroll-Station (Imperial Royal Seed Control Station) in Vienna in the Prater. The director's name is Hofrat Dr. von Weinzierl.

CHINA.

GREAT DISTRESS—INCREASED IMPORTS OF FLOUR AT TIENTSIN EXPECTED.

Consul-General Edward T. Williams, of Tientsin, submits the following report concerning the failure of the crops in his district, and the expected increase in the imports of foreign flour to supply the deficiency:

The consular district of Tientsin embraces a vast area, comprising the provinces of Chihli, Shansi, northern Honan, and the eastern half of the dependency of Mongolia. Mongolia being inhabited almost wholly by nomads, and given up to cattle raising, need not be considered in this report. Of Shansi and northern Honan little has been reported, but that little would seem to indicate normal crops.

The southern and central portions of Chihli have fared badly, and this is true also of the counties in the northwestern part of Shantung, which, although not included in this consular district, find their principal market at Tientsin. These sections form part of a vast plain of alluvium deposited by the sluggish streams which flow through it. Near the sea the soil is saline and sterile, but with this exception the plain is fertile, and, when the rainfall is sufficient, produces abundant harvests. The population of the province of Chihli is estimated at 16,000,000 to 20,000,000, and it is probable that not less than three-fourths of these will be found dwelling on this plain, the density of whose population is estimated at over 300 to the square mile.

THE AFFLICTED DISTRICTS.

The early rains were very scanty throughout the greater part of this region, and, as a consequence, the wheat crop was almost a complete failure. An official report states that seven perfectures of the province of Chihli suffered more or less from this drought, and have had to purchase foodstuffs from other provinces.

The region under consideration is noted, too, for its fruit, particularly pears, peaches, and apricots, but the orchards, also, have failed this year. Other important crops are cotton, peanuts, millet, maize, and kaoliang (Barbados millet), which depend upon the summer rains which have been very irregular. In some counties they have been too heavy, and have caused the streams to overflow their banks and do great damage to the growing crops. Thousands of acres have been swamped. In other counties the summer rains were as scanty as those of spring. This is particularly true of the counties in southern Chihli and northwestern Shantung. In many of these the cotton crop is an utter failure, and the same can be said of the peanuts. The kaoliang is scarcely half a crop. The peasants in these districts are face to face with great want, if not with starvation. The condition of the rural population of China generally is one of poverty, and they have little or nothing upon which to depend when the harvests fail. This is especially true of this region where frequent drought makes agriculture a precarious calling.

A well-known missionary reports that distress is imminent in many counties of northern Shantung and southern Chihli. The prices of foodstuffs, he declares, are already higher than during the great famine of thirty years ago. Cattle, donkeys, and ponies, the domestic animals used in plowing and hauling, are being driven in large

number to Tientsin to be sold, because the farmer has nothing with which to feed them. The manufacture of straw braid is an important industry in this region, and this has been injured by the lack of straw.

PROBABLE IMPORTS OF FOREIGN FLOUR.

This survey of the condition of the crops in this province and the counties of Shantung which border thereon is sufficient to show that a large part of the foodstuffs required for this region must be brought in from outside. Chihli does not feed her people even in ordinary seasons. During the year 1907 there was imported at Tientsin a great deal of foreign flour, nearly all from the United States, amounting to 123,046,000 pounds, valued at $3,039,039 gold. But there was a partial failure of crops in 1907 also, and the import mentioned was therefore extraordinary. In 1906 the import of foreign flour amounted only to 29,798,133 pounds. There was an increased import of foreign flour in 1907 amounting to 93,247,867 pounds, and of foreign rice amounting to 59,104,933 pounds, largely, if not wholly, due to the failure of the crops upon which the people of this region depend. There seems a probability that an equal or perhaps a larger amount of foreign foodstuffs will be demanded this year.

FLOOD DEVASTATIONS.

Floods in central and southern China have devastated large areas given to rice culture, so that a shortage in the rice crop is more than probable, and the demands upon it will be greater than ever. Central China also produces large quantities of wheat, but this year's crop there, too, was greatly damaged by the floods of April in that region.

In June a portion of the province of Kuangtung, in south China, devoted to rice culture, was swept by a destructive flood. Official reports represented the crops as destroyed in a very large measure. In July some six districts of Honan were officially reported as badly damaged by floods, the people being driven from their homes. Later a dozen counties in the adjoining province of Hupeh were also officially reported as suffering from floods. On July 23 the governor of the province of Anhui telegraphed to Peking that the counties bordering the Huai River and those along the Yangtze were submerged by floods and the crops destroyed. The former, i. e., those along the Huai, seem to have been replanted, but the Yangtze region will not drain so quickly, and this is a portion of the region which supplies the rice that is shipped to the north; Wuhu, a port in the flooded district, being the greatest rice exporting city in China. Recently reports came from Shantung that for ten days ending August 21 a great portion of that province had been visited by destructive storms which had done great damage to the crops not already ruined by the drought, and there is likely to be an extra demand in that province, therefore, for grain. Thus the provinces of central and southern China which, in ordinary times, aid in feeding Chihli, will probably be unable to supply the usual quantities of rice, much less to meet an extra demand, and some regions that have been accustomed to exporting grain will be compelled to import. The condition in the Yangtze region may be understood from a recent proclamation by the governor-general at Nankin forbidding any shipments of grain at all from the *provinces* under his jurisdiction.

INDIA.

RECLAIMING UTTERLY WASTE LANDS IN THE PUNJAB.

Consul-General William A. Michael, of Calcutta, reports as follows concerning the reclamation of the lands occupied by the Chenab colony in the Punjab:

The Punjab is credited with advancing in agricultural prosperity. The average value of the net agricultural exports by rail to Karachi and to other parts of India from the Chenab colony for the three years ending in 1907 (though two of the years were unfavorable and a fifth of the revenue was remitted) was no less than $11,000,000. This is $6 per acre sown, and $11.66 per head of the population in the tract it represents.

The Chenab colony is located on land that a few years ago was a waste, utterly unproductive, which was redeemed by the government through a system of irrigation. The work accomplished by government engineers in redeeming this desert country and making it productive is an example to all countries having desert land as to what may be done in the face of the most adverse physical conditions. The land was not only redeemed, but it was made accessible by highways and railways built by the government, which also selected the best available men to cultivate and improve it, and transported them thereto. The government also aided the settlers in building houses, and in properly stocking the farms allotted. The result was that within three years this colony sent $11,000,000 worth of agricultural products to the market at Karachi, and maintained themselves in comfort they had never known before. The government will get back all the money invested with big interest. This reclamation lessens the possibility of famine in the Punjab, and contributes toward the uniform agricultural strength and certainty of the whole Empire.

ARGENTINA.

PROGRESS IN THE NORTHERN STATE OF ENTRE RIOS.

Consul-General Alban G. Snyder writes that the governor of Entre Rios, in his annual message to the legislature of that Argentine province which lies north of Buenos Aires, between the Parana and Uruguay rivers, gives a statement of financial and economical conditions in his territory, from which the following extracts are taken:

The message begins by a reference to the opening of the ferry-boat railway, which places Entre Rios in easy communication with this capital, thus facilitating commerce between them, and as a complement to this work it is intended to connect the center of the province with the ports on the Uruguay River, and arrangements are being made for a survey with this object in view.

The pastoral and agricultural industries in which, it appears, there is much room for improvement, are touched upon. The cattle are said to be of inferior quality and to suffer much from garrapatas and red murrain. Regarding the diseases of cattle, the Government accepted the offer of the director of the National Bacteriological Institute, Professor Lignieres, to travel through the parts in which the pastoral industry has been greatly developed and deliver lectures on the means to be adopted to prevent and cure diseases. The exporta-

tion of cattle to Buenos Aires has been impeded by difficulties in applying the animal sanitary law owing to the railway not reaching Liniers, so that animals transported by it, and nearly all of which are affected with garrapatas, have to be driven on foot for some distance between the settlements in the cattle zone classified as clean. The governor says this drawback will be overcome upon the completion of the extension of the Buenos Aires Central Railway from La Ville to the slaughter yards at Liniers. The province has about 3,200,000 head of cattle, 7,000,000 sheep, and 500,000 horses, and their products, and those of the poultry industry, are estimated at about $15,000,000 for the year.

CROPS, REVENUES, AND SCHOOLS.

The area sowed considerably increased during last year both in quality and quantity as far as wheat was concerned. Of 650,000 hectares (hectare=2.47 acres) under cultivation, 285,582 were in wheat, 214,843 in linseed, and the rest in alfalfa, peanuts, vines, and fruit trees. The production of wheat is estimated at a ton a hectare, and the value of agricultural products $18,000,000. The rural population is estimated at about 70 per cent of the total of 423,000. Immigration fell off during 1907, only 2,453 immigrants arriving compared to 2,997 for the previous year. The governor states that there was a good increase in the revenues compared with the receipts for the first half of 1907 as a result of the new tax on grain and the new valuation for the direct land tax, which permitted the reduction of the license tax on thrashing machines.

The children of school age are estimated at 83,500, of which only 46,800 attended school during the year.

EAST AFRICA.

AGRICULTURAL POSSIBILITIES OF MOZAMBIQUE.

Consul W. Stanley Hollis, of Lourenço Marquez, transmits a report made to the governor-general of Mozambique, by a special commissioner, on the agricultural possibilities of that province, from which the following extracts are taken:

The parasitic plant known as "jikungo" appears to be most valuable for the production of a useful oil. I was shown samples of the product which is said to equal, if not to surpass, the salad oil of commerce. The large proportion of oil yielded by the seeds, which amounts to an average of 40 per cent, certainly makes the plant well worthy of being experimented with.

COTTON AND RUBBER.

In the course of my journey I saw large tracts of land which could be placed under cotton, and judging from similar areas which I have seen in the Transvaal, and from which cotton has been forwarded for report to the British Cotton Growers' Association and to the Colonial Institute, and which has been declared to be better than even the best American product, I should strongly urge the desirability of experimenting in cotton growing. The possibilities of the area being once made evident to the investing public, there should be no difficulty in securing the necessary capital for the full development of these valuable lands.

A specimen of wild cotton was found by me, which, I understand, has been forwarded to Washington for identification.

The rubber plantation which I visited consisted of something like 100,000 trees, of which only some 3,000 have proved satisfactory. This is owing to the fact that the work was undertaken without adequate knowledge of the methods which would result in success. From trees 14 years of age I was shown

a number of disks of India rubber, approximating to an eighth of an inch in thickness and from 6 to 8 inches in diameter, of which one such disk had been collected from each of a number of trees on fifteen successive days. The quality appeared to be good, and proof was thereby given that, under favorable circumstances, this valuable industry might be established.

SUGAR CANE—AGRICULTURAL IMPLEMENTS.

A considerable area of land is under sugar cane in the Yambezia district. At the only plantation which I visited, where about 600 acres are under sugar, the crop was most promising. A mill is working and they expect to produce some 500 tons of sugar this year. This quantity they hope to double in 1909, as they are now planting an additional area with cane. The luxurious growth of the cane is worthy of note, and areas were seen where the height reached 14 feet, and the cane was unusually thick, and yielding a large percentage of sugar.

There appears to be room for a visit from the representative of an up-to-date firm of agricultural implement manufacturers, who would introduce labor-saving machinery, thus lowering the cost of cultivation and performing the work much more satisfactorily. Machines for the extraction of tree stumps, soil levelers, cultivators, plows, reaping machines, etc., might, I consider, be most profitably employed, provided they are constructed to suit the conditions of the country.

SUGAR INDUSTRY.

BRAZIL.

CONFLICT BETWEEN THE PRODUCING AND REFINING INTERESTS.

In furnishing the following report, Consul-General George E. Anderson, of Rio de Janeiro, says that the sugar industry has reached the most critical period in its history, and is now the center of a great conflict in the Brazilian business world.

The present phase of the contest involves the duty on sugar, and among the elements of the situation are: A contest between the planter-factory, as the producing interests, and the refiners; a very high import duty and largely decreased consumption and a coming bumper crop; the crop prospects being modified by the fact that there is in Brazil a sugar trust, which exists not for the importation and domestic sale of sugar, but for the control of the domestic market by controlling the country's sugar exports, imports being entirely shut out.

The conflict is of interest to the people of the United States not only in its effect upon American exports to Brazil generally and exports for sugar factories particularly, which are coming to be large, but also in the fact that the amount of sugar exported directly affects American markets, because in certain cases certain amounts of Brazilian sugar are forced, or are likely to be forced, upon the American markets at any price. At the same time, while the United States does not penalize sugars from countries which pay bounties upon sugar, unless such bounties are direct, the United States, as a protection to its own sugar industries, is none the less interested in countries which pay indirect bounties in the way of prohibitive import duty as in Brazil at the present time.

INDIRECT BOUNTY AND BRAZILIAN SUGAR COMBINATION.

In 1905 the Permanent Commission of the Brussels Sugar Convention raised the question of whether or not Brazilian sugars should not be penalized by reason of the indirect bounty paid by Brazil to Brazilian sugar planters and manufacturers in the shape of the charge of an import duty of 1 milreis, then about 25 cents gold, per kilo, or

about 11 cents per pound. Brazil sent a commission to Brussels to oppose the proposition to penalize its product. The question was finally settled, temporarily, in the negative, chiefly, it would seem, because the duty had in the meanwhile been reduced to 200 reis (then about 6 cents) per kilo or about 2.7 cents per pound.

This import duty, comparatively low for Brazil, though still high as such duties run the world over, did not appeal to a good many sugar manufacturers in Brazil and there was at that time the beginning of agitation and organization which has continued ever since. Starting with the necessity of opposing the proposed action of the Brussels Convention, there has been a constantly developing organization now known as the Colligação Assucaria Brazileira (Brazilian Sugar Combination), which now dominates the situation. This organization has forced upon Brazil, one of the great sugar producing countries of the world, prices for sugar to the consumer which probably are the highest paid in any country in the world to-day. The opportunity and scope of this organization has rested in exceptional circumstances. By reason largely of conditions, hereinafter described, in general due to the prevalence of old-time methods in sugar making and in an indisposition or lack of capital to adopt modern methods and machinery to enable them to meet competition of other countries in their own and in foreign markets, the combination has claimed reason for its existence and has been able to influence producers in the direction of organization.

PRICES IN THE HOME MARKET CONTROLLED BY EXPORTS.

The fear of losing all of Brazil's foreign market for its sugar as a result of the penalties proposed by the Brussels Convention led to particular attention being given to the home market. The control of sugar prices within Brazil for Brazilian consumption by the organization was obtained by an agreement whereby the amount of sugar to be sold in Brazil was limited. In spite of the great lowering of the duty to 200 reis per kilo, as noted, the duty was still great enough to shut out foreign sugars under ordinary conditions. The organization thereupon agreed to allot to Brazil about three-fourths of their crop and to hold the crop long enough to force prices up to consumers; the rest of the crop was to be exported. The estimated amount of sugar to be exported was, in a general way, divided among the importing countries, and, in a general way, sales to such countries were made upon the basis of this allotment. The price to be obtained for the sugar exported was to be as high as possible, as a matter of course, but whatever the prices were the proportion of the crop allotted for export was to be sold abroad rather than in Brazil, regardless, also, of the prices in Brazil. The price of sugar in Brazil was by this method gradually raised to a point where, even by paying the high import duty, French and German beet sugars could be exported to Brazil and undersell Brazilian sugars. To prevent this competition from abroad, the Brazilian sugar interests demanded action from the Government, and, on March 27, 1908, the President of Brazil, using authority granted him by the Brazilian Congress, issued a decree doubling the duty on imported sugars, thus shutting out all foreign sugars.

This increase in duties brought the price of sugar in Brazil to the following rates: Cubes, cube sugar, and the grade known in the United States as granulated, are selling in Rio de Janeiro for 1:200

reis per kilo (1 kilo=2.2 pounds); whites, corresponding to C sugar in the United States, for 900 reis per kilo; mascovinho or coarse brown sugar, 600 reis per kilo, substantially 16.3 cents, 12.3 cents, and 8.2 cents per pound, respectively. In the face of these prices is the fact that last year about 13,000 metric tons of sugar were exported from Brazil to countries where they competed with sugars selling at very much less than sugars are selling in Brazil.

PRESENT OUTLOOK—PROSPECTIVE EXPORTS TO THE UNITED STATES.

The course of such prices in Brazil continues and the plan of the Colligacao is to be continued. For the present crop, according to the arrangement made at the beginning of the crop year, 20 per cent of the product is to be kept by the producers in the shape of demararas and melados, or low grade sugars of the specifications for export. If the agreement is adhered to, this 20 per cent will not be sold in Brazil, no matter what the price of the product here may be.

There is no doubt that the sugar industry of Brazil has come to the parting of the ways. The present artificial conditions of the business can not continue long. Even if the present high duty here is maintained, the market will dwindle until it will not suffice to support the present volume of the industry. Without some such artificial support it is also certain that many of the sugar concerns will have to stop business, unless they can reestablish it upon a modern basis, with modern machinery and modern methods generally. The planters and factory people who have bought modern machinery—mostly from the United States—are making money now and could, in all probability, even make good profits without the support of any duty, owing to the possibility of reducing many elements of the cost of production to a minimum.

In the meanwhile, whether the sugar organization in Brazil continues to withdraw sugar from the Brazilian market to ship it abroad for the sake of keeping up Brazilian prices, or whether by the collapse of the present wall made by the high duty the business takes upon itself a more natural and more lasting aspect, it is probable that shipments of Brazilian sugar to the United States will largely increase in the near future. The satisfactory expansion of the business, other than a temporary aid in the increased consumption in Brazilian markets which would follow at once upon the fall of prices, can only come in the development of exports in which, by reason of full supplies elsewhere, the United States must have a part.

Present indications are that the current year's crop in Brazil will amount to 5,200,000 bags of 75 kilos each, a total of 390,000 metric tons.

OPPORTUNITY FOR MANUFACTURERS OF SUGAR MACHINERY.

The exports of sugar at present, while far below the exports of coffee and rubber, constitute one of the seven items of greatest exports of the Republic. The extent of the industry is greater than the exports indicate. The cane country is confined very largely to the coast country, although there are many valleys inland which are suitable for cane culture and under other business conditions might be cultivated for that purpose. The extent of the industry at present may be indicated in a general way by a list of the larger sugar establishments in the States principally concerned in the sugar industry, which should have a practicable value for makers of American sugar

machinery. The list is offered as in no degree complete or perfect, although it is the most complete yet compiled. The factories vary greatly in size and importance, and the list in some cases includes factories which are important only in that they represent the industry in their respective localities and thus indicate the extent of sugar production territorially. [The list is on file in the Bureau of Manufactures.]

Many of the factories listed were started with more or less Government help, some of them even with Government interest guaranties. Most of those listed as owned by corporations have had more or less help, but few, if any, are now receiving any help.

The concessions granted by the Federal Government generally were limited to the right of free entry through the customs of materials and machinery for the establishments. The Government has attempted to inspect such concerns, often employing for that purpose engineers of the railroads serving the factories. The Government policy of direct aid to such concerns has signally failed and has been abandoned by the present administration.

PROSPECTS FOR IMPROVEMENT.

There is a vast difference in capital, output, cane consumption, methods, profits, and other elements of the condition of the industry. Some factories are equipped with the best of modern machinery, but the vast mass of them have little or no machinery of it. In Pernambuco many of the factory owners are unable to buy such outfits. As a rule the factories of São Paulo are the best equipped and, on the whole, are probably better prepared to meet competition in the future than those of any other State. The demand for sugar-making machinery in the several States is growing, but at present is greatest in São Paulo, where American machinery interests are, in a general way, doing a good business and are in the way of doing more. Recently an American house making a specialty of American sugar machinery has been opened in the city of São Paulo, and the indications are that American makers of such machinery will get a good share of the trade. This business largely follows a campaign more or less educational in its nature, and it is practically impossible to secure any of it except by having well-trained, capable men of business on the ground.

The occasion for complaints of a lack of profit in the business, which have been the foundation of the present high duties and the chief cause of the present situation generally, is in the factories without modern equipment. The work done in some is practically the same as that done in similar establishments, generally on the same sites, a hundred years ago. Neither is the full sugar juice product of the cane extracted from the cane or all the sugar possible made from the cane juice. In many cases the losses in labor and other expenses are immense. The losses generally following the continuation of such old methods, with the price of la r higher than it used to be and with land suitable for cane gr more valuable, are such that the wonder is that the live at all.

The su with the aid of impr ng world in the

markets of Brazil, but could export immense quantities of their product at present prices and make handsome profits. So advantageous are natural conditions for sugar making here in some portions of the country that some concerns are making 100 per cent annually on capital invested without improved machinery. Conditions vary so greatly, however, that it is unquestionably true that many of the small and poorly equipped concerns have difficulty in making ordinary interest returns on their investments.

That the general introduction of modern machinery and equipment would equalize conditions, establish the business upon a permanently prosperous basis, and remove at once both the present trouble of the proprietor and the embarassment for Government and people which the present high duty entails, is recognized only by the people generally, but by the more progressive of the sugar people, and the Government is giving every possible encouragement to the introduction of such machinery for sugar mills. Upon such machinery for use in factories duties are usually remitted by the Federal Government, and in some lines the privileges granted actually amount to premium upon such investments. The several State governments concerned have established factories of their own, as will be seen from the list of factories submitted, in which modern methods and modern machinery are demonstrated, with a view to the general improvement of the industry in their respective localities.

In a general way, however, modern machinery is not introduced, more because of lack of available capital than because of an indisposition to do so. Most of the factory owners in such positions are land poor. The old-time system of owning great estates, raising cane for their own factories, and disposing of the product of their own estates in the shape of the manufactured sugar, still obtains, and without the available capital necessary for the purchase of needed machinery they prefer to continue the sale of their product in such a manner, even at low prices and with a reduced income, to mortgaging their estates and embarking upon what to them are new and unknown methods of business.

CHINA.

SUGAR PRODUCTION FROM BEETS GROWN AROUND HARBIN.

The following information concerning the results of beet-growing experiments for sugar manufacture is furnished by Consul Fred D. Fisher, of Harbin:

Since 1903, experiments have been conducted by private interests in the production of sugar from beets grown in the vicinity of Asheho and other districts around Harbin. The sugar obtained from these experiments was, on an average, a little over 10 per cent, although the percentage has varied greatly according to the rainfall and temperature of each season. During the summer of 1907, when very favorable results were obtained, there was but little rain and the temperature was generally high, while during the present summer there has been a very heavy rainfall, while a much lower temperature has prevailed.

The results obtained have been sufficiently encouraging to induce the interested parties to organize a joint stock company [name on *file at Bureau of* Manufactures] for the erection of a sugar factory

at Asheho. The capital required is placed at $927,000, of which only a small amount has been secured. The company hopes to commence operation in September of next year. It is the intention to manufacture brown sugar for the local Chinese markets.

To encourage the Chinese farmers in the cultivation of sugar beets, the company this year has given to farmers in the vicinity of Asheho 10 rubles ($5.15) for each deciatina (2.7 acres) of beets planted, together with the seed, and will also allow them to dispose of this year's crop for their own profit. Next year the company hopes to be able to take all the beets produced. It is said that 200 acres have been planted in sugar beets this year under these arrangements.

KOREA.

DEVELOPMENT OF THE BEET-SUGAR INDUSTRY BY THE GOVERNMENT.

Consul-General Thomas Sammons, of Seoul, writes as follows concerning the efforts being made for the development of the sugar-beet industry in Korea:

A number of foreigners, including Americans, have given serious consideration to the question of developing the sugar-beet industry in Korea. The total consumption of sugar in Korea in 1907 aggregated only $386,762 in value and, therefore, should the sugar producing industry thrive as is expected, the country will become an exporter thereof.

The chief experimental work in the cultivation of beet roots has been carried on at the Korean Government model farm at Suwon, near Seoul, which the Japanese Protectorate has established. The results obtained at this station will, therefore, indicate the possibilities of sugar production in Korea. These public experiments, however, confirm private experiments and careful observations, all tending to demonstrate that in Korea, where rice raising is at present the chief agricultural industry, the cultivation of sugar beets will prove highly profitable.

CULTIVATION AT SUWON.

The ground used for the cultivation of beet roots on the model farm at Suwon included, in 1907, 11.045 acres, consisting of sandy loam which was not very fertile. This area was divided into two parts, one portion manured and the other unmanured, the subdivisions being 7.513 acres and 3.454 acres, respectively, in area. The average result of the crop on manured and unmanured areas was as follows per acre:

Treatment.	Total weight.	Upper part with leaves.	Lower part.
	Pounds.	*Pounds.*	*Pounds.*
Manured	3,063	672.2	2,390.8
Unmanured	1,835	421.1	1,413.91

The "upper part" denotes the part that showed above the ground and was cut off with leaves when harvested, and the "lower part" denotes the bulk of the root.

The foregoing result compares unfavorably with the average crop in Germany, which usually produces from 2,699.6 to 3,037 pounds of

root per acre. The weather was, however, very dry during the season of 1907 as compared with that of the same period of preceding years, and the true result must be determined by the experiments of succeeding years. The average result taken from 10 test roots in the manured division is as follows: Average weight of a root 1.298 pounds; gross sugar percentage, 14.146.

The result in the manured division, classified by the weight of roots, is as follows: Average weight of a root, 0.958 pound; gross sugar percentage, 13.988.

ANALYSIS OF BEETS.

The result of the analysis of the beet roots cultivated at Toksum (Duksum) in charge of the Horticultural Model Farm authorities and those at Hwangju, Hwanghai Province, in charge of the branch office of the Industrial Company, Ltd., and both harvested at the beginning of November, 1907, is as follows:

Farms.	Average weight of a root.	Gross sugar percentage.
	Pound.	
Hwangju, A	0.659	19.265
Hwangju, B	.375	19.807
Toksum	.793	12.442

In the foregoing results it will be noticed that the gross sugar percentage obtained from the roots cultivated at Suwen and Toksum in Korea are far inferior to those obtained from the average root in Germany. The net results realized at Hwangju are, however, almost equal to the highest percentage of German beets. Though the latter result may partly be due to the smallness of the roots which were grown at Hwangju, yet it is deemed by the authorities to be very important in future years to make thorough experiments in the near-by districts.

TURKISH LICORICE INDUSTRY.

HOW THE ARTICLE IS SECURED AND HANDLED IN THE LEVANT.

Consul-General Edward H. Ozmun, of Canstantinople, transmits the following translation of a report on the licorice-growing industry in Turkey, prepared at his request by Mr. Karnik Manaukian:

Licorice (in Turkish "Miyan Keuku") is of the family of papillomaceous (butterfly-shaped) leguminous plants. The botanical designation given for the plant found in Lebanon, Anti-Lebanon, Asia Minor, and Caucasus is Glycyrhiza glabra L. The officinal licorice, a shrub of 1½ meters (5 feet) maximum height, grows spontaneously in southern Europe, the fruit of which contains 3 or 4 seeds, and the root long and running, is cylindrical and smooth, brown outwardly and yellow internally. Erect licorice, which attains a height of 2 meters (6½ feet), has a fruit containing only 2 seeds; it is taprooted and the root is not as sweet as that of the other kind, but it is used for the same purposes. The gummy and sugary element in licorice is "glycerhizine;" and is used in commerce either as a dry root or as an extract or juice, solidified into sticks of 90 to 100 grams (3.17 to 3.53 ounces). It is considered emolient and pectoral. The better kind of prepared licorice has a brilliant black color, incompletely

soluble in water and giving a transparent solution. The pure article, mixed with starch, fecula or other substances less injurious, is usually of a brownish tint, breaking in a granular shape, and furnishes an unsatisfactory solution.

The licorice plant has been cultivated according to precedence of date in Spain, Italy, Greece, the Ottoman Empire, Russia, China, Turkestan, and Persia. The yearly production of dry licorice in tons of about 1,000 kilos (2,204.6 pounds) is as follows:

	Tons.		Tons.
Spain	1,120	China	560
Italy	4,480	Persia, Turkestan	280
Greece	2,240		
Ottoman Empire	33,600	Total	64,680
Russia	22,400		

The two countries which export almost all of their product to the United States are Russia and Turkey. In Russia licorice is cultivated in the villages of the Koura on the right and left of the railroad in the government of Elisabethpol and Baku.

In 1885 licorice was for the first time cultivated industrially in the region of the Caucasus and on the shores of the Caspian Sea; a factory for drying and pressing the root was established near Liaki, on the Trans-Caspian Railroad. Other factories have since been established. It is estimated that more than 6,000,000 poods (216,000,000 pounds) of licorice root is manipulated yearly. Almost the whole of the produce is destined for the United States and England. The root is purchased on the spot in a fresh state for from 10 to 25 kopeks per pood (14 to 36 mills per pound). After sorting and drying it has lost 50 per cent in weight, and costs at Batoum, all expenses included, about 80 kopeks to 1 ruble per pood (1.1 to 1.4 cents per pound). While licorice of Turkey is sold in Europe at 30 to 45 francs per 100 kilos (2.6 to 3.9 cents per pound), Russian licorice, which is not so well appreciated because of its bad assortment and its acrid taste, is sold for only 15 to 35 francs per 100 kilos (1.3 to 3 cents per pound).

In Asiatic Turkey licorice root is found in sandy and damp places, more especially on lands near rivers. It is dug by the peasants from depths of 25 to 50 centimeters (9.8 to 19.7 inches) and sold on the spot from 3 to 10 centimes the kilo (27 to 88 mills per pound). The licorice produced in the province of Aidin is the best in the world. It was first discovered in 1848 by an Italian who, in company with an Englishman, began the business of collecting and exporting it to the United States. There remains to-day only one of the factories for the making of licorice paste, that at Senke, which produces annually 4,500 cases of paste, each of 100 kilos (220.46 pounds).

EXPORTS FROM SMYRNA.

Within eleven years Smyrna, which is the seaport of the province of Aidin, has exported 2,307,500 cantars (287,753,557 pounds) of dried licorice and 141,020 cantars (17,585,701 pounds) of licorice paste. There has thus been an annual average exportation of 210,000 cantars (26,187,756 pounds) of dried licorice, or 11,760 tons of 1,000 kilos (2,204.6 pounds) each, and 12,820 cantars (1,598,700 pounds) of licorice paste, or 718 tons of 1,000 kilos each. The prod-

uct in this district is increasing. During the three years 1904, 1905, and 1906 this province produced an annual average of 25,395 tons of undried licorice root. Drying the root reduces its weight to 15,360 tons, of which 10,240 tons are exported to the United States and 1,536 tons to France, Italy, etc., while the balance is transformed into paste in the country.

The ground where this plant grows is rented each year by the merchants who deal in this article. Upon payment of the rent the tenants have the right to dig and export the root during the interval between September and May. The digging and transport of the root is given by contract to the peasants or the latter work by the day for the tenant. According to the temperature and the season a laborer can dig from 35 to 70 kilos (77 to 154 pounds) a day.

GENERAL INCOME—TRANSPORTATION—PRODUCING PROVINCES.

The rent of the grounds varies from 40 centimes to a franc per deunum (34 to 85 cents per acre) per year. It is estimated that merchants pay about 160,000 francs ($30,880) per annum for this purpose; that the number of laborers employed is 14,000; that these 14,000 laborers receive as wages 1,100,000 francs ($212,300); that the tithes paid to the Ottoman Government are 120,000 francs ($23,160) for the root and 11,500 francs ($2,220) for the paste. This makes a total expenditure of 1,397,500 francs ($269,718) exclusive of general and sundry expenses borne by the merchants and of the expenses for transport from the place of produce to the port of Smyrna.

The transport by railway costs an average of 25 centimes per ton per kilometer (7¾ cents per ton per mile), but, where there is no railroad, camels, horses, or mules are used for conveying licorice root. The cost of transportation by camel from Aleppo to Alexandretta, 120 kilometers (74.4 miles), is 44 centimes per ton per kilometer (13.6 cents per ton per mile), while the cost by steamer from Bagdad to Bassorah is only 10 to 25 centimes per ton per kilometer (3.1 to 7¾ cents per ton per mile).

In the following provinces of Asiatic Turkey this plant is cultivated to a considerable extent:

Aidin—in the valleys of the Meandere and the Giediz, especially the cazas of Menemen, Magnesie, Akhissar, Kassaba, Salihlou, Alachehir, Senke, Aidin, Nazeli, Tchine, Karadja, Sou, Bosdoughan, Seraikieui, Denizli, Boldan, Bayindir, Tyre, Eudemish, Milas, Makri. Annual production 15,000 tons. Syria and Aleppo—in the valleys of the Nehr Az, Aksou, and the Euphrates, 8,000 tons. Beirut—5,000 tons. Bagdad—2,000 tons. Mamouret-ul-Aziz (Harput)—1,000 tons. Bassorah—2,000 tons. Konia and Mutessariflik of Jerusalem—600 tons.

WAGES OF WORKERS—FREIGHT RATES.

The wages of women in the different parts of Asiatic Turkey vary from 50 to 75 centimes (10 to 15 cents) per day of ten hours. In certain distant regions of the province of Adana, and even in the Lebanon, it is only 35 to 50 centimes (7 to 10 cents) per day. The skilled laborers who weave the fine rugs of Smyrna and Oushak receive 1 to 1¼ francs (19.3 to 24⅛ cents) per day. As to wages of men, they vary greatly according to circumstances, whether the laborer is a native or a European, according to his age and according to the difficulty

or the specialty of the work. A day laborer receives 1.2 to 1.5 francs (23.2 to 29 cents) per day, and even as much as 2 francs (38.6 cents) in cities like Beirut and Smyrna. Agricultural wages increase as one nears the larger centers. A laborer with his oxen is paid from 2 to 4 francs (38.6 to 77.2 cents) per day. European workmen who dig licorice root may be had for 1 to 1½ francs (19.3 to 29 cents) per day.

American navigation in Turkish waters is practically nil. Ottoman products are transported to the United States by foreign sailing vessels or steamers. Within the last twenty years only two American sailing vessels have visited Syria and Palestine. In 1886 Beirut was visited by an American sailing vessel of 1,581 tons and Bassorah in 1897 by one of 918 tons. Freight-carrying competition of the different navigation companies is one of the principal factors in the commercial struggle of the different foreign powers in the Levant.

It is difficult to fix exactly the amount of freight rates, which only vary according to the needs and the fluctuations of offer and demand, but for licorice root the charge to the United States varies from 20 to 32½ francs ($3.86 to $6.27) per ton of 1,000 kilos (2,204.6 pounds).

CLIMATE OF ASIA MINOR.

The climate of Smyrna is temperate and without change from September 20 to the end of January and from April 1 to June 20. The winter is cold and damp; the summer comes late, the temperature in the daytime being 39° C. in the shade, at night 33°. Southwestern is the principal wind. The insalubrity of Alexandretta is proverbial, and this place is the seat of marsh fevers. The climate of Beirut is mild except in summer. The average monthly temperature in centigrade ranges from 14° in January to 28° in August. At Damascus the temperature varies from 2° to 3° C. in January and from 38° to 40° in the summer. The nights are refreshing. The climate of Jerusalem and Palestine is very dry in summer. It rains only in the autumn.

USE IN PLUG TOBACCO—EXPORTS OF TOBACCO.

In transmitting the foregoing report Consul-General Ozmun states that the chief use of Turkish licorice is in plug tobacco. The Bureau of Manufactures supplements the contribution by the following statistics, showing the importation of licorice into the United States during the fiscal years 1906 and 1907:

Imports.	1906.		1907.	
	Pounds.	Value.	Pounds.	Value.
Extracts	583,342	$95,451	692,739	$77,984
Extracts, duty remitted	41,293	5,137	56,098	4,926
Root, free of duty	102,153,651	1,661,483	66,144,390	1,141,384
Total		1,762,071		1,224,294

Efforts to grow licorice in the United States thus far have failed.

Of subsidiary interest it may be stated that the exportation of plug tobacco from the United States was $2,794,060 in the fiscal year 1902, $1,683,152 in 1903, $1,700,028 in 1904, $1,803,308 in 1905, $1,820,598 in 1906, and $1,878,108 in 1907. The trade being largely in the hands of one company, with establishments also in Great Britain, explains

the decline in exports of about $1,000,000 from 1902. In the latter year the exports of plug tobacco from the United States to the United Kingdom were in value $811,140, and to British South Africa $569,031. In 1903 the shipments to those countries dropped to $398,417 and $106,833, and in 1907 to $215,028 and $36,167, respectively.

OPIUM TRADE.

TURKEY.

CULTIVATION OF THE POPPY AND EXPORTS OF OPIUM.

At the request of a Western house representing large chemical and pharmaceutical interests, Consul-General Edward H. Ozmun, of Constantinople, furnishes the following information concerning opium in Turkey:

The opium-producing poppy is sown in Asia Minor all along the Anatolian Railway, from Gueyve, 97 miles by rail from Constantinople, up to the present terminus of the Koniah line, Bulgurlu, and to a small extent along the Angora line; also along the Smyrna-Cassaba extension to where it joins the Koniah line, at Afion-Kara Hissar, which obtains its name in Turkish from its principal export, opium, and at Balikesser and Bigaditch, in the province of Hudavendighiar. The opium produced in these districts is entirely known as "Druggists."

The morphia percentage varies according to the climatic influences, and some districts may one year assay only 10 per cent, as against 11½ to 12 per cent in other years. Other large producing districts are Zile, near Sivas, and Malatia, near Harpoot. The quality from these districts is known as "Soft Shipping," and the open-colored firsts are used for smoking purposes. The opium from these districts contains a maximum of 10 per cent morphia.

OPIUM IN EUROPEAN TURKEY—GATHERING METHODS.

In European Turkey opium is cultivated in the districts of Uskub, in the province of Kossova, in Monastir, province of the same name, and Salonica, in the province of Salonica. The crop in these districts varies, according to climatic conditions, from 300 to 3,000 cases, the latter being the highest maximum known. Salonica produces the richest quality, giving as much as 14 and 15 per cent morphia.

The crop is sown in this country in most districts in the months of September and October, when favorable rains allow of the land being plowed and the seed planted. Sowing is continued right on to the end of January, and the sowings in the fall, when successful, are better able to withstand the spring drought. The spring sowings are made in February and March, but these require a lot of rain during April and May to bring them to maturity.

The gathering of opium commences at the end of May and continues to the end of July, according to the district.

When the poppy heads are in a fit state for yielding milk, a small incision is made on either side, the milk or juice emanating therefrom is collected and made into a cake or loaf varying from a few ounces to 14 pounds in weight in some cases. The fresh leaf of the poppy is

placed around it, and after having been exposed to the sun for a day or two to dry, is brought to the markets of the interior and sold to native merchants or agents of houses established in Constantinople or Smyrna. On their arrival at the seaboard these cakes or loaves are opened and examined by buyers—all adulterated loaves being rejected.

The opium for shipment is packed in cases containing from 120 to 140 pounds.

Exact opium statistics are not easily obtained. I give herewith such statistics as it was possible to secure, and even these seem contradictory unless carefully analyzed.

TOTAL YIELD AND EXPORTS OF OPIUM.

The following statement shows the total yield of opium in Turkey for the past eleven years:

Year.	Cases.	Year.	Cases.
1898	3,000	1904	11,000
1899	6,000	1905	3,750
1900	8,000	1906	7,250
1901	6,500	1907	2,375
1902	11,000	1908 (estimated)	4,800
1903	.....		

According to the Turkish custom-house returns for the year ended March 13, 1906, the latest published, opium to the extent of 435 tons, valued at $3,208,382, was exported to the following countries:

Country.	Value.	Country.	Value.
United States	$42,421	Belgium	$37,434
United Kingdom	2,680,656	Russia	28,668
France	231,006	All other countries	27,460
Germany	98,746		
Austria-Hungary	61,991	Total	3,208,382

The total exports for the period mentioned above are about twice as great as the total crop for the year 1905, but this is capable of explanation; the crop of the previous year having been exceptionally large, stocks accumulated and were sold during the following season. The exports by country are credited to the carrying flag or to the transshipping country. Exports to the United States are given as $42,421, whereas we can look also under Germany, Austria, and particularly England for the remainder of our share, which, instead of the insignificant 1¼ per cent of the total exports, must average nearly 25 per cent of Turkey's output. The exports declared for the United States at the following ports during the years 1905, 1906, and 1907 were as follows:

Ports.	1905.	1906.	1907.
Constantinople	$66,598	$104,397	$18,507
Salonika	46,157	72,941	30,362
Smyrna	720,622	626,895	388,206
Total	833,377	804,233	437,075

There are no restrictions in this country against opium and its derivatives. Turkey's entire product, however, is exported, the export duty being 1 per cent ad valorem. The poppy is grown purely for its opium. It is quite impossible to estimate even the acreage under cultivation.

The present (August 12) market prices are $350 to $405 per 112 pounds, f. o. b. Constantinople.

IMPORTS OF OPIUM INTO THE UNITED STATES.

The quantity and value of opium imported into the United States during the fiscal years ended June 30, 1906, 1907, and 1908 were as follows:

Whence imported.	Quantity.			Value.		
	1906.	1907.	1908.	1906.	1907.	1908.
Crude.	*Pounds.*	*Pounds.*	*Pounds.*			
United Kingdom	129,942	204,642	196,325	$356,410	$643,192	$863,174
Other European countries	64,548	84,230	34,856	153,003	182,617	107,676
Asia and Oceania	261,761	267,408	42,755	598,989	630,523	148,635
Other countries	13,136	8,972	11,909	35,281	26,317	31,722
Total	469,387	565,252	285,845	1,143,683	1,482,649	1,151,207
Prepared for smoking and other containing less than 9 per cent of morphia.						
Chinese Empire	137,217	160,392	145,345	1,283,931	1,561,349	1,322,691
Other countries	1,432	2,886	1,676	12,608	24,128	14,012
Total	138,649	163,278	147,021	1,296,539	1,585,477	1,336,703

SIAM.

A GOVERNMENT MONOPOLY ADMINISTERED THROUGH AN OPIUM FARM.

Consul-General John Van A. MacMurray, of Bangkok, furnishes the following report concerning the imports of opium into Siam and the manner in which the business in the drug is conducted in the Kingdom:

Opium is now and for a long time has been a government monopoly, administered through an opium farm. By the treaties with foreign powers, opium may be imported free of duty, but can only be sold to the opium farmer or his agents. In the event of no arrangement being effected with them for the sale of the opium it shall be reexported, and no impost or duty shall be levied thereon. Any infringement of this regulation shall subject the opium to seizure and confiscation. Under these circumstances practically no opium is imported into Siam, except the supplies for the farm, which the Government provides by purchasing Indian opium. The farm system is being replaced by direct governmental administration.

The only derivative of opium about which any question has hitherto arisen is morphine. The Siamese Government claims under the treaties the right to exercise the same control over this derivative as over opium itself. In view, however, of the legitimate uses to which morphia may be put in the practice of medicine, the Government has

permitted the importation of reasonable amounts by reputable chemists under certain safeguards; but its importation by other persons is not permitted. When imported for medical purposes, morphia pays the usual duty which is charged on merchandise generally3 per cent.

Siamese legislation concerning opium consists of the following laws, decrees, and regulations: (1) Law relating to the monopoly, 1871; (2) supplementary law relating to the monopoly, 1890; (3) regulations concerning the monopoly, 1893; (4) regulations concerning the monopoly, 1896; (5) supplement to the regulations of the state railways (prevention of traffic in or smuggling of illicit opium within their precincts), 1898; (6) regulations concerning the monopoly, 1899; (7) decree prohibiting the importation of yale and other drugs containing opium; (8) decree fixing penalties for offenses in connection with illicit opium. [Copies in English of these laws, decrees, and regulations are on file in the Bureau of Manufactures.]

There is practically no cultivation of the poppy in Siam. In the extreme north there is a small quantity grown on the tops of the hills, at an altitude of over 3,000 feet, which is consumed by the producers.

There is no export trade in opium in Siam; neither is there any production save in the case mentioned. The figures for the imports therefore represent the consumption in the Kingdom. The total value of the imports in 1907 was $684,361.

CHINA.

PROHIBITION AGAINST THE CULTIVATION OF POPPY.

Consul Samuel L. Gracey, of Foochow, reports that the viceroy of Min-che's suggestion for the entire prohibition of the poppy cultivation in his jurisdiction within this year, has been sanctioned by the Throne. All the poppy fields in that Chinese province must be changed into paddy fields. Any cultivators found or reported as having disobeyed this prohibition will have not only the poppy planted in his field immediately extirpated and the land confiscated, but the cultivator will also be severely punished according to law. Handbills to that effect will soon be printed and circulated by the antiopium associations for public information.

BRITISH INDIA.

RESULTS OF SALES FOR THIS YEAR.

Consul-General William H. Michael, of Calcutta, supplies the following information on the opium trade of British India:

The total receipts from five sales of Bengal opium for this year (to the end of August) amounted to $9,196,121, which is $746,121 better than the estimate. The receipts from four months' pass duty on opium exported from Bombay (to end of July) amounted to $1,367,800, which is $701,133 better than the estimate.

From January 1 to July 31, 11,232 chests of opium were exported from India, against a total permissible export during 1908 of 15,100 chests, leaving a residue of 3,868 chests for export up to December 31.

SIERRA LEONE RUBBER.

VALUABLE AFRICAN VINE PRODUCTS TESTED IN LONDON.

In reporting that a number of samples of rubber obtained from the Gola forests in the hinterland of Sierra Leone, adjacent to the frontier of Liberia, were recently forwarded by the colonial office to the Imperial Institute in England, Consul W. J. Yerby writes as to the results:

It is reported that portions of the forests are rich in rubber-yielding vines, but no information is yet available regarding the botanical identity of these vines. With the exception of one sample, which contained a large percentage of resin, the rubbers were pronounced by the Imperial Institute to be of very promising quality, and it is claimed by the institute that there is no doubt that if carefully collected and prepared they would command satisfactory prices in the market.

One sample was a thick, sausage-shaped piece of rubber weighing 5 ounces, of a dark external color, but pinkish white and moist when freshly cut. This sample was strong and fairly clean, having the following composition when dry: Moisture, 0; caoutchouc, 74.4; resin, 13.1; proteids, 6.0; insoluble matter, 6.5. The ash-test percentage was 2.51. This specimen was valued by brokers in London at 4s. (97 cents) per pound. It exhibited very good physical properties.

Another sample, of sausage-shape, weighing 12 ounces, was of a dark color externally, but whitish and very moist within when freshly cut. This sample was very sticky and contained much impurity in the form of fragments of bark. It was found to have the following composition when dried: Moisture, 0; caoutchouc, 84.3; resin, 5.6; proteids, 1.1; insoluble matter, 9.0; ash test, 1.11. This sample was valued at only 2s. 3d. (54 cents) per pound in London; the stickiness and bad preparation accounted for the low price.

A third sample was of light color, strong and clean, with a composition when dry of: Moisture, 0; caoutchouc, 87.4; resin, 6.0; proteids, 1.6; insoluble matter, 5.0; ash test, 1.77.

The fourth sample was found to be weak and slightly sticky, but contained very little vegetable matter, with, when dry, a composition of: Moisture, 0; caoutchouc, 72.2; resin, 24.8; proteids, 1.2; insoluble matter, 1.8; ash test, 1.21.

The fifth sample was in appearance much like the first, with satisfactory physical properties, and when dry the composition was: Moisture, 0; caoutchouc, 85.2; resin, 5.2; proteids, 1.2; insoluble matter, 8.4; ash test, 1.21.

The third sample was valued at 4s. (97 cents), the fourth at 3s. (73 cents), and the fifth at 4s. (97 cents) per pound each in London.

There is no doubt, judging from the reports of those who have traveled over the Sierra Leone hinterland, that the productive possibilities of these vines are great and the qualities quite satisfactory, but little is produced.

TURKISH SCAMMONY TRADE.

THE CULTURE AND EXPORT OF A PHARMACEUTICAL DRUG.

Consul-General Ernest L. Harris supplies the following description of the scammony industry in the Smyrna district of Turkey:

Scammony is a plant which thrives in the soil and climate of Asia Minor. The leaves are triangular in shape and produce little flowers of a pale yellow color. Scammony gum is extracted by means of crushing the roots of the plant between large stones especially prepared for this purpose, with grooves cut in different places in order to permit the sap to drip away and be collected in little clay cups. This primitive method is in use throughout the Vilayet or Province of Smyrna. The fluid, after being dried in the air, forms a dark-gray substance which is soluble in alcohol. Its composition is from 60 to 90 per cent of resin, the other parts being about equally divided between starch, salts, calcium, and magnesia. Scammony is used in pharmaceutical purposes, principally in the preparation of purgatives.

The scammony trade of Smyrna has practically been monopolized by one concern. The annual exports amount to about 5,500 pounds, the principal buyers being Italy, France, and England. Most of it is sent by parcels post through the various post-offices in Smyrna.

In former years it was a custom of the peasants to adulterate scammony, when in a liquid state, with wax and even mud. This practice, however, has been obviated by analyzing all the scammony on the market. Smyrna scammony, or Aleppo scammony, as it is sometimes called, sells at from $7 to $8 per pound.

BERMUDA LILY BULBS.

TRADE LOSS THROUGH POOR STOCK—IMPROVEMENT EFFORTS.

Vice-Consul W. H. Heyl, of Hamilton, states that the report of the Board of Agriculture of Bermuda just issued contains the following reference to the lily-bulb industry of that island:

The lily-bulb industry is rapidly recovering itself under the direction of the department, the weakest point being the unrestricted export of bulbs not true to type, falsely marked. A "pure-seed" law in America, parallel to the "pure-food" law, would bring the mixed-bulb industry in Bermuda to an abrupt conclusion. At present the sale of selected stock, true to type, is being hampered, prices kept down, and confidence in the trade jeopardized; it is manifestly unfair to those growers who have exercised industry and foresight and who have followed with care the advice published from time to time by this department; for the purchasing florist does not know what he has bought until the bulbs are in full growth three or four months after potting.

The superintendent of the Bermuda public garden states that "the disappointment of both grower and customer, caused by the nonflowering of bulbs sent over as Lilium Harrisii, but which are not, have combined to reduce the value of the industry in Bermuda by some 80 per cent. Some two or three of our largest growers, I am glad to say, have for the last few years very carefully weeded out during growth the "hybrids" and longiflorums and can now guarantee their stock absolutely pure Harrisii."

At the end of the year it is gratifying to be able to report an immense improvement all round in the lily industry and next year should witness the export of some very fine bulbs. The total number of cases shipped was 6,399, valued at $46,777.

CAMPHOR IN CHINA.

OLD FORESTS IN FOOCHOW—LOWER PRICES.

Consul Samuel L. Gracey sends from Foochow the following note on the camphor industry of the Chinese Province of Foochow:

In the northern part of the Fuhkien Province among the thick forests there stand many camphor trees, some of which are over a thousand years old. In the former time people did not know how to manufacture camphor and camphor oil. But in recent years they learned the method and found the traffic to be quite lucrative. The average quantity of camphor purchased and shipped from Kien-ning to Foochow each year by foreign and Chinese merchants is about 7,000 or 8,000 piculs (picul = 133⅓ pounds) and that of the camphor oil is about 20,000 piculs. In the thirty-first and thirty-second years of Kuan-hsu the camphor dealers enjoyed a great profit, for the price of champhor was over $140 per picul, and that of the camphor oil was $60 per picul. But in the thirty-third year (last year) the price of camphor suddenly dropped to $80 per picul, and that of the camphor oil to $30 per picul. Dealers in camphor have all suffered great losses.

FOODSTUFFS.

THE FOREIGN FLOUR TRADE.

BRITISH SOUTH AFRICA.

WHEAT SUPPLY OF CAPE COLONY AND FLOUR MILLS THEREIN.

Vice-Consul-General George Loomis Foster, of Cape Town, furnishes the following information concerning the milling industry of Cape Colony, whence its wheat supply is drawn, and the opportunity in that market for American flour:

In Cape Colony there are about 30 flour mills, according to the best information obtainable. South Africa does not produce wheat enough to keep six of these mills busy, consequently large quantities of wheat are imported yearly from countries oversea, including Australia, Argentina, Canada, and the United States. In 1907 4,698,421 bushels of wheat, valued at $3,918,233, were imported into Cape Colony, of which 3,971,576 bushels came from Australia and New Zealand, 576,026 bushels from Argentina, 117,600 bushels from the United States, and 24,152 bushels from Canada.

The customs tariff on wheat entering British South Africa is 1s. 2d. (28 cents) per 100 pounds, with a rebate to that of British origin of 2d. (4 cents) per 100 pounds.

AMERICAN WHEAT APPRECIATED FOR ITS QUALITY.

North American wheat not being as cheap as that bought elsewhere, as little as possible of it has been imported for the past two years, but it is necessary to blend a certain amount of it with others in order to produce a flour satisfactory to South African bakers.

The bakers and millers apparently appreciate the superior quality and extra value of the American strong wheat, and if it could be obtained at a price which would enable them to use a larger proportion of it, more of it would gladly be purchased. Argentine wheat, although not precisely taking the place of North American, has been largely used in its stead since the price has been so much more advantageous. It is stated by those in the milling trade that millers here are willing to pay 4s. (97 cents) per quarter (480 pounds) more for North American hard wheat than for Argentine wheat. The price quoted at present for Australian wheat is $1.90 per 100 pounds, c. i. f. South African ports, Argentine wheat being quoted at 6 cents per 100 pounds more.

It is claimed that the millers have used every possible effort to keep out the imported flour, in order to keep their mills busy, and being unable to get the merchants to handle the South African milled flour, as it paid them better to handle the imported, have long since got possession of many of the principal bakeries by buying their premises, in this way compelling the bakers to handle their flour. This applies particularly in the western province of Cape Colony, where are located two very powerful milling companies.

The merchants here in turn put up a good fight for the imported flour, which is sold largely to householders and bakers who are not tied to the millers.

USE OF AN AMERICAN BAKING PLANT.

One very big house at East London is said to have imported an American baking plant, with every up-to-date equipment, in order to do baking from imported flour in opposition to the bakeries controlled by the millers. This method for increasing the sales of American brands of flour would certainly be most effective. It is thought that there are firms ready to start baking plants, using only American flour, if they were assured that they could obtain a continuous supply of American flour at competing prices. From the prices quoted in connection with the samples forwarded, it can be seen that if the middle man's profit could be eliminated it would be easy to compete.

While the millers think there is little chance of increasing the export of American flour to South Africa, there are others thoroughly acquainted with the trade who think that if the American millers were represented by special and competent agents who understood the trade much more business could be done. There are such agents here on the spot, willing to push the sale of American flour, who know the baking trade well and are in close touch with merchants handling flour.

TARIFF, PACKAGES, AND FLOUR PRICES.

The tariff on wheat flour is 2s. 6d. (61 cents) per 100 pounds, with a rebate of 6 cents per 100 pounds on that of British origin. During 1907 the wheat flour and wheat meal imported into Cape Colony amounted to 33,990,528 pounds, valued at $671,533, of which Canada supplied 13,069,619 pounds, Australia 14,449,661 pounds, the United States 4,033,180 pounds, and Argentina 2,069,973 pounds.

Flour for this market is put up in bags of 98 pounds net, 100 pounds gross weight. Either a very good single bag is used or a linen inner bag and an outer Hessian bag. The present price of finest white flour, c. i. f. Cape Town, is given as 9s. 6d. ($2.31) per bag. Samples of the flour most commonly used by the bakers, as supplied by the Cape Town millers, are being forwarded with this report. [Samples may be secured by American millers from the Bureau of Manufactures.]

The finest white flour, called Snowflake as shown by sample No. 1, is supplied to the bakers by the mills at 31s. ($7.54) per bag of 200 pounds, with a cash discount of 5 per cent. Ration flour, as shown by sample No. 2, is supplied at 28s. 6d. ($6.93), and whole wheat meal, shown by sample No. 3, at 25s. ($6.08) for the same quantity, and the same cash discount is allowed. A very big trade is done in all parts of the colony in the last two grades. Ration bread and brown bread are used extensively.

STATISTICS OF IMPORT.

FLOUR AND WHEAT AT PORT ELIZABETH—CANADIAN RIVALRY.

The flour trade at the Cape of Good Hope is described in the following report from Consul R. B. Mosher, of Port Elizabeth:

The duty on wheat flour is 60 cents per 100 pounds, with a rebate f 6 cents on the manufactures of the United Kingdom and recipro-

cating British colonies. The imports of flour into Port Elizabeth for the calendar year 1907 amounted to $163,266, against $233,203 for 1906, and the wheat imports were $1,589,371 for 1907, against $1,939,402 for 1906. Details are not available.

The subjoined tables of statistics for the Cape Colony indicate to some extent the prevailing depression in the colony. The 1907 imports of wheat fell off 11 per cent from those of 1906, the flour imports were 15 per cent less, and the output of each of the three local millers has also decreased. The statistics for 1907 show that Canada has increased her flour trade with the colony by 36 per cent, and has lost 55 per cent of her wheat trade for the year; Victoria has lost 42 per cent of her flour trade and 51 per cent of her wheat trade; South Australia lost 28 per cent of her flour trade and gained 67 per cent in the wheat trade; the United States lost 53 per cent of her flour and 70 per cent of the wheat trade, and Argentina gained a separate showing in her flour trade and lost 13 per cent of her wheat trade. The following statement shows the imports of flour and wheat into Cape Colony by country of origin for the calendar years 1906 and 1907:

Country of origin.	Flour.			Wheat.		
	1906.	1907.	Gain (+) or loss (−).	1906.	1907.	Gain (+) or loss (−).
			Per cent.			*Per cent.*
Canada	$212,618	$289,430	+36	$54,232	$25,150	−55
Victoria	267,888	156,484	−42	1,902,407	930,247	−51
South Australia	127,157	91,865	−28	1,349,218	2,256,270	+67
United States	182,776	85,284	−53	456,069	94,091	−70
Argentina	.....	31,803	.....	641,400	557,852	−13
All other	8,587	16,717	+94	80,749	101,994	+26
Total	799,026	671,533	−15	4,484,075	3,965,604	−11

[A list of Port Elizabeth dealers in flour is filed with the Bureau of Manufactures.]

TRIPOLI.

A SHORT BARLEY CROP WILL CAUSE INCREASED FLOUR IMPORTS.

Consul William Coffin furnishes the following information concerning the flour trade of Tripoli, in Barbary, and the opportunity for American millers to secure a share thereof:

Owing to a very short crop of barley, Tripoli is in the market for an increased importation of flour and semolina this year. The imports for 1907 were valued at $319,345. Much larger purchases will be made this year, and an excellent opportunity exists for American flour exporters to get their products into this market.

The trade will be in the cheaper qualities of flour and semolinas. At present these are imported principally from Italy and France. The prices of the different qualities, current on September 19, were per 100 kilos (220.46 pounds), c. i. f. Tripoli—French and Italian flours: "0000," $4.92 to $5.21; "000," $4.63 to $5; C. D. E., $4.05 to $4.43. German flour, "Diamant," $5.70. There are various brands of semolinas, the prices running from $4.40 to $5.98.

The terms are usually draft against bill of lading, although credit from Italian houses is often obtained. American exporters should quote c. i. f. Tripoli-in-Barbary, per bag of 100 kilos. At present

prices they should be able to get some business. Flour is often delivered here in jute sacks, and cheaper packing by American houses could probably lower their quotations a little.

The question of terms is very important. Orders for flour are often placed through commission agents, who combine orders from merchants and bring in a bulk quantity. Either the documents are sent to a bank or the goods are consigned to the bank, and on arrival each merchant pays for and takes delivery of his quota. The American terms of draft against documents, accompanied by a confirmed banker's letter of credit, work against American trade. There is very little risk now in shipping flour, draft against documents, into as lively a market as this.

Samples of flour and prices forwarded to the American consulate will be placed where they will do the most good. Prompt action is necessary if any business is to be got this season, as deliveries are over about the last of February or March 1. American shippers should also be particular to see that shipments come fully up to samples submitted.

CHINA.

NATIVE FLOUR INFERIOR IN QUALITY TO THE FOREIGN PRODUCT.

The following information, as given in a local newspaper concerning the present condition of the flour trade in Newchwang, is furnished by Consul Thomas E. Heenan, of that Chinese port:

The stock of flour at this port is small, and the imports are equally small, yet sales are slow. One of the reasons for this condition of the trade is said to be the large wheat crop of the Fengtien Province. The present market price for flour made from this wheat is 5 cents Mexican per catty (2.1 cents gold per 1⅓ pounds), which is cheaper than the price of the Shanghai (foreign) flour. The flour made from Fengtien wheat is dark and does not come up to the quality of the Shanghai flour, and can not compete therewith, although it is at present a hindrance to the sales of the better product.

On August 3 American steamers entered at Newchwang with 60,000 sacks of "boat" brand flour, which was imported by a Japanese merchant. Some of this flour was contracted for by Chinese merchants, who had sold it on speculation for $2.47 Mexican ($1.05 gold) per sack, to be delivered on the 11th. As these goods had arrived, payment should have been made on delivery, but on account of lack of money to meet such payments, 4,000 sacks were suddenly sold at the rate of $2.40 Mexican ($1.02 gold), which has disturbed the market somewhat.

MANCHURIA.

CAUSES OF THE PRESENT DEPRESSION IN THE FLOUR TRADE.

From an article in a local newspaper on the condition of the Manchurian market, transmitted by Vice-Consul-General E. G. Babbit, of Yokohama, the following extract concerning foreign flour is taken:

According to an estimate furnished by a reliable authority, the total quantity of flour imported for this year will not exceed 800,000 sacks, which is less than one-third the quantity imported in 1906. All the flour merchants are suspending new orders and are trying to clear their stocks as quickly as possible, even at a loss. Up to 1903 the quantity of foreign flour annually imported was 100,000 sacks or thereabouts. Subsequently the sudden expansion of the purchasing power of the natives on account of the war and the rise in silver resulted in a great increase in the import of flour. With the fall of silver and the resumption of a normal condition of exchange, however, the importation of flour has begun to decline, resulting in the existing dullness of the trade. In view of the scale of living prevailing in Manchuria, it is believed that the demand for a large quantity of imported flour can not be expected in the near future. The rise in the price of flour owing to the fluctuation of exchange has been very great, as may be seen from the fact that a brand that was quoted at Mukden

at $2.30 (Chinese currency = 98 cents gold) per sack in January last year is now sold at $2.95 ($1.26). In such circumstances it is not surprising that the foreign flour trade in Manchuria should experience such a depression as at present.

TEA AND COFFEE TRADE.

INDIA.

EXTENT OF THE INDUSTRY AND EXPORTS OF THE PRODUCT.

The following information concerning the tea industry and tea exports of British India is furnished by Consul-General William H. Michael, of Calcutta:

Official publications give the exports of Indian tea to the principal countries during the three fiscal years ended March 31, 1908, as follows:

Countries.	1906.	1907.	1908.
	Pounds.	*Pounds.*	*Pounds.*
United States	2,175,000	1,739,000	2,086,000
United Kingdom	166,591,000	176,170,000	169,325,000
Russia	9,988,000	13,761,000	15,407,000
Australia	7,729,000	9,499,000	11,090,000
Ceylon	2,101,000	4,818,000	8,881,000
China	3,076,000	4,820,000	7,502,000
Canada	15,019,000	14,515,000	4,731,000
Turkey in Asia	3,543,000	3,101,000	3,504,000
Persia	1,102,000	929,000	1,578,000
Other countries	2,899,788	4,301,637	2,917,657
Total	214,223,788	233,653,637	227,021,657

The value of the total amount of tea exported in 1907–8 was $34,334,495, against $32,859,214 in the previous year.

About 73,200,000 pounds of tea were sold at auction in Calcutta in 1907–8 at prices ranging thus: Broken Pekoe, 15 cents; Pekoe, 17 cents; Pekoe Souchong, Souchong Pekoe fannings, and Congou, 13 cents, or a net average of 14 cents per pound.

The exports of green tea by sea and by land during the three fiscal years 1906, 1907, and 1908 were 2,183,940 pounds, 2,034,384 pounds, and 1,806,031 pounds, respectively.

The approximate number of acres planted to Indian tea in 1907 was 536,652, which produced 248,020,398 pounds of tea, of which 233,653,637 pounds were exported by sea and 865,648 pounds by land. Calcutta shipped 73.9 of the total, Chittagong 18.9, and Madras 6.2 per cent, leaving 1 per cent for all other ports.

ACREAGE PRODUCTION AND SHIPMENTS.

The actual quantity of tea reported plucked during 1907 was taken from 517,063 acres, leaving 22,394 acres the plants on which were too young to pluck or for other reasons were not plucked. The total number of tea plantations was 5,811, an increase of 40 over the year previous. The total number of pounds of tea produced in 1907 was 247,514,355 pounds, distributed as follows:

	Pounds.
Assam	167,545,751
Eastern Bengal	46,713,115
Bengal	13,503,444
Northern India	3,532,139
Southern India	16,219,906
Total	247,514,355

While Burma is a province of India, the tea produced there is not included in the above figures for the reason that most of Burma tea is pickled and eaten as a condiment. Only 4,175 pounds of black tea was made while the pickled tea amounted to 501,868 pounds.

The average quantity of tea, black and green, produced per acre was about 330 pounds.

The total quantity of green tea produced in 1907 was 3,546,546 pounds; 1906, 4,140,810 pounds; 1905, 4,004,730 pounds, which shows a considerable decrease for 1907.

DECISIONS OF TEA AND COFFEE GROWERS.

The South Indian Planters' Conference, which met in Bangalore on August 19, passed a resolution unanimously recommending the policy of mutual preference for British producers throughout the Empire. The conference also declared in favor of a tax on all Ceylon tea imported into India equal to the tax placed on Indian teas imported into Ceylon. This latter action is in retaliation of Ceylon's refusal to remove the tax on Indian teas. The conference took action favorable to the opening of new land under cinchona cultivation, and that the Madras factory of quinine should give preference to cinchona bark produced in India.

The conference has also decided in favor of a tax or cess similar to that now imposed on tea to be levied on all coffee produced in India and exported, the proceeds to be devoted to a campaign for the popularization of Indian coffee in foreign markets. The viceroy of India will be petitioned praying for an assessment of a tax of 3 annas (6 cents) per pound to be collected for five years on all coffee exported from India. It is fully believed that the prayer will be granted and the tax of 6 cents be fixed.

BRAZIL.

BRAZILIAN STATE AGREES TO GIVE UP THE VALORIZATION METHOD.

A report from Consul-General George E. Anderson, of Rio de Janeiro, states that the understanding in Brazil is that the loan of $72,997,500 sought by the government of the State of São Paulo under authority of the legislative assembly of the State for the consolidation of the several loans and general indebtedness arising from the enterprise to "valorize" or give a price to coffee above the general or natural market price will be successfully placed in accordance with an agreement of which the details are now being arranged, but which in general are known. Mr. Anderson outlines the plan as follows:

It is stated that American, German, and English financiers, working through the house of Schroeder, will take two-thirds of the loan and the French financiers the other third. It is stated that one of the requirements of the contract is that the government of the State shall go out of the coffee business in all respects, that it shall give up all propaganda and other enterprises so far as present contracts admit, and that it shall make no attempt in the future to control by artificial arrangements the coffee market in any way. This condition has forced upon the State the enterprises represented by recent legislation to limit the exports of coffee from the State of São Paulo to 9,000,000

bags the current year, with an increase of 500,000 bags up to 10,000,000 bags annual exports in the future.

HOW THE PLAN WILL OPERATE.

As an indication of the working of the limitation of exports in the near future, in case such limitation is actually undertaken, the experience of the people of Santos, the port of São Paulo, during the first half of September is valuable. There was a strike of dock laborers at Santos which has prevented the entry and shipment of the usual amount of coffee. The increasing stocks of the berry have been piled in warehouses and even in the streets of the city until well toward a million bags of coffee have been on hand in place of one-tenth that amount usually in the course of shipment. The result has been that the entire commercial life of the community has been tied up. Money was not to be had and distress in many lines of commerce was immediately experienced. There was locked up, in the coffee on hand and supposed to be in the course of shipment, freights to the amount of about $100,000, which was in fact so much ready money taken out of the community. In short the community and the country depending upon it were materially embarrassed by a few days' delay in the shipment of the ordinary crop. The question arises as to what the conditions will be when the ordinary course of shipments will be stopped indefinitely and from one year to another, only to be further delayed and finally stopped in each succeeding year.

The entries of coffee up to September 11, 1908, were 3,651,127, as compared with 2,683,516 bags in 1907 and 3,842,434 in the banner year of 1906. Flowering and other conditions favor the coming crop in every way.

THE PRODUCTION OF THE SEVERAL COUNTRIES STEADILY INCREASING.

The increasing production of coffee throughout the world, especially in Brazil, is illustrated in the returns for the crop of 1907–8 recently closed, and with entries during the first two months (July and August) of the current crop year. The total entries of coffee in Brazil last year was 11,349,271 bags, substantially the same as the average entries for the four years previous to the banner year of 1906–7. The total shipments were 12,953,572, as compared with the average shipments of 12,782,723 for the past eight crop years. The visible supply on June 30, 1908—14,567,285 bags—was only about 2,000,000 bags less than a year ago at the wind up of the immense crop of that season. Most significant perhaps of all is the fact that the entries of coffee at Rio de Janeiro and Santos during July and August, 1908, are almost as large as during the great crop of 1906–7, and at Victoria and Bahia larger. While the prospect of additional tax in São Paulo renders the situation somewhat abnormal, there is no doubt but that present indications are for a very large crop during the current season.

CROP OF 1908. [illegible] PORTS.

The total ent[illegible] in [illegible] June 30, 1908, were as follows, in [illegible] o and Minas, 3,408,203; Victo[illegible] [illegible]49 271.

The total thus [illegible]

bags. The [illegible]

the State of Rio de Janeiro than Nictheroy and not included in reports heretofore sent out. The total entries at Port da Madama and Ihla do Vianna, during the past five years, form a very material element in the coffee situation, and should be given particular investigation by coffee men in connection with all calculations as to entries and stocks at present and in the future.

The shipments of coffee from Brazil during the crop year ending June 30, 1908, were as follows, in bags: Rio de Janeiro and Minas, 3,761,296; Santos, 8,456,017; Victoria, 482,553; Bahia, 230,051; other ports, 23,655; total shipments, 12,953,572.

This total compares with 12,782,723 as the average shipments from Brazil for the past eight crop years. The average value of the shipments in 1907–8 was 36s. 5d. or $8.86, as compared with 38s. 5d. ($9.34) in 1906–7; 39s. 11d. ($9.71) in 1905–6; and 40s. ($9.73) in 1904–5. Of the shipments during the past season 57 per cent went to European ports, 41.7 per cent to American ports (including South American ports), 1 per cent to Africa, and 0.3 per cent to Asia and Australian ports. Much of the coffee sent to Europe, however, was for consumption in other parts of the world. Of the shipments of coffee to the United States two-thirds went to New York as usual. The record for the past three years has been as follows, in bags:

To—	1905–6.	1906–7.	1907–8.
New York	3,242,624	4,493,810	3,334,712
New Orleans	1,492,145	1,776,639	1,791,626
Baltimore	80,500	28,000	.....
Charleston	17,550	12,003	10,000
San Francisco	.....	.....	108
New York, option	5,707	.....	.....
New Orleans	14,992	.....	.....
Total	4,853,518	6,310,452	5,136,446

The port of San Francisco appears in the list of ports of direct shipments for the first time. The shipment noted in the figures given was made by way of the Straits of Magellan to Valparaiso, thence transshipped for the trip up the west coast.

The comparative visible supplies, based on revised figures for Brazil, as noted above, are somewhat different from the figures generally published in Europe and the United States, but are more nearly accurate.

THE WORLD'S PRODUCTION.

According to general figures accepted by the trade as the production of so-called "mild coffees," or coffees other than Brazilian, the coffee production of the world for the past four fiscal years has been as follows, in bags:

Description.	1905.	1906.	1907.	1908.
Brazilian	10,597,080	11,055,378	20,409,180	11,349,271
All other	3,923,000	3,948,000	3,596,000	3,861,000
Total	14,520,080	15,003,378	24,005,180	15,210,271

The increase in the world's production of about 9,000,000 bags between 1906 and 1907, according to figures thus generally accepted, *has increased* the visible supply only about 6,400,000 bags, a discrepancy which can only be explained by the assumption that the

stock of coffee in consuming markets is very much larger than what it has been assumed to be. This in turn easily explains the ability of consuming markets to get along with small purchases so long as the stock of valorization coffee held by the government of Sao Paulo is held over the world's markets.

Entries for the current crop of coffee at Rio de Janeiro and Santos, during July and to August 29, amounted to 2,744,675 bags, an increase of about 35 per cent over the entries for the same period last year. Entries at Victoria show an increase fully as marked.

The valorization of coffee enterprise, whereby the State of Sao Paulo, with more or less assistance from the States of Rio de Janeiro and Minas Geraes, has purchased about 8,400,000 bags of coffee from the immense crop of 1906–7, with a view to holding the surplus of that year for disposal in other seasons when the crop may be small, and thus to maintain prices, is giving way to or being merged into a new proposition which has been put forth officially by the President of the State in a message to the Legislative Assembly of Sao Paulo on August 10.

PLANTING AND EXPORTS TO BE RESTRICTED.

Under the proposition submitted by the President, which unquestionably will be given effect to by the assembly, the planting of further acreage will not only be prohibited, as it has been for the past five years, but the annual export of more than a fixed amount of coffee from the State, will be practically prohibited by reason of a progressive tax on exports in excess of 9,000,000 bags during the current crop year, 9,500,000 bags the second year, and 10,000,000 bags in each succeeding year, the latter amount supposedly covering the maximum of the average produced in the State of Sao Paulo.

The expectancy of the Government, as indicated in the President's message and by current discussion of the situation, is that the excess of coffee produced over that allotted for export will be stored in Sao Paulo warehouses and made the basis of advances of money to the "commissarios," or middle men, and from them to the producers. In other words, the excess of the crops to be produced in the near future is to be held by the producers, or middlemen, instead of by the Government. Naturally such excess will be a part of the world's visible supply, and will, in a general way, have the same effect upon the coffee market of the world as the valorization stock has had. The whole matter hinges upon the coffee valorization situation, and the whole coffee situation of the world hangs upon valorization as well. While officially claiming that valorization has maintained the price of coffee, the financial situation engendered by it is frankly faced by the Sao Paulo government, and the necessity of the loan and the new tax presented.

FURTHER FINANCIAL AID.

The stipulations of the act giving the government of [illegible] the authority asked for in the message of the President [illegible]

ARTICLE 1. An additional tax of 20 per cent ad valorem in [illegible] lished by law shall be levied on all coffee exported from the [illegible] 9,000,000 bags during the first year, exceeding 9,500,000 for the [illegible] June 30, 1910, and exceeding 10,000,000 bags in succeeding [illegible]

ART. 2. The surtax established by article 29, of law [illegible] 29, 1905, levied on all coffee exported from the State shall [illegible] or its equivalent in currency calculated at the official ra[illegible] date.

ART. 3. The government of the State is hereby authorized to proceed at once to raise a foreign loan not exceeding £15,000,000 ($72,997,580), to complete the measures necessary for the defense of coffee and to consolidate all loans undertaken for this purpose.

The situation is indicated in a very clear manner by the figures contained in the last financial statement of the Sao Paulo government in relation to the valorization project. Up to December 31, 1907, the State had purchased, in furtherance of its valorization project, a total of 8,146,123 bags of coffee. Later it bought 328,500 bags more, and during the past six months it sold at auction, in the several great markets, a total of 305,160 bags, so that its present stock is placed at 8,169,463.

It is difficult to ascertain the fair value of this stock of coffee, assuming that it could be disposed of at present prices, which of course is impossible. The stock of coffee is scattered in several great ports of the world where prices vary. It is doubtful if it will exceed in value from $62,000,000 to $63,000,000; a difference of from $28,000,000 to $30,000,000, which would represent a loss to the State if the coffee were sold at present prices. The necessity of consolidating the loans on coffee by the placing of the loan of £15,000,000 ($72,997,500), stated by the president of the State, is due to the fact that the price of coffee is running so low that the loan margin is dangerously near. The £15,000,000, with the £3,000,000 ($14,599,500) of loan already placed upon the guaranty of the Government of Brazil and the amount of loan which can be carried in the State's own credit as treasury bills or as a lease on the railroad, will enable the State to hold to the valorization stock. If the £15,000,000 loan can not be placed, the valorization stock must be sold, as the President of the State indicates in his message.

The element in the proposed readjustment really and particularly of interest to American consumers is in the matter of the £15,000,000 loan. If this loan is secured by the government of Sao Paulo, the valorization coffee will be held by that State, although this fact does not mean any material change in the general situation, since entries of coffee in the current crop will unquestionably exceed consumption. But a failure to realize the loan will precipitate the sale of the valorization stock. While such precipitation would most likely demoralize prices for a time, it is probable that the ultimate result would be to establish them upon a more lasting and satisfactory basis.

BRITISH POTATO CROP.

VERY LARGE YIELD OF SUPERIOR QUALITY TUBERS.

Consul Joseph G. Stephens, of Plymouth, in the following report gives an account of the superior yield of potatoes this season in Great Britain:

The average yield from fifteen of the leading centers of potato production in Britain points to a record potato output this season. These fifteen centers represent over 10,000 acres devoted exclusively to potatoes. In each instance they show a return of 6½ tons to the acre. Figuring upon this basis the total harvest of potatoes in Britain this year will consist of over 3,250,000 tons, which is regarded as an immense and satisfactory output. The yield in Lincolnshire alone is about 450,000 tons. This year's output is the greatest for a quarter of

a century. Yorkshire will turn out not under 390,000 tons. The crop in Lancaster, Cambridge, Chester, Fife, Perth, Forfar, Kent, Norfolk, and Devon is highly satisfactory. The quality and size of the potatoes are all that can be desired.

In certain sections of Scotland the output will average as high as 15 tons to the acre. Single farmers have planted as much as 500 acres to potatoes. The utilization of high-grade seeds has done much to improve the potato farming industry generally. In respect to quality and productiveness, Scotland, it is claimed, is far ahead of England and Wales. The Scotch farmer pays more attention to the preparation of the land. Attention to the needs of the tuber pays handsomely.

The increased potato harvest in Britain this season will have an important effect upon the imports from the Continent through the winter especially. At Plymouth, which is a large import depot, foreign producers are already offering specially favorable terms for supplies for delivery during the late autumn on contract. British farmers are pointing with pride to the fact that the acre average for Britain has during late years been considerably increased.

WORLD COCOA TRUST.

VARIOUS PRODUCING COUNTRIES ORGANIZING FOR PROTECTION.

A report from Consul-General George E. Anderson, at Rio de Janeiro, states that a combination between the producers of cocoa in the several countries in which the bean grows is now in the course of formation, according to announcements made in Brazil in furtherance of the plan. Mr. Anderson describes the causes and plans of the movement:

The low price of cocoa which has ruled for sometime past, especially during the past year, has led to a desire on the part of representatives of Portugal and the countries in the northern portion of South America that something be done to protect the industry, as they view the matter, and action has been taken in Ecuador, San Thomé, San Domingo, and Trinidad to organize national organizations in each case which shall cooperate with each other in a plan to control the price of the product in the markets of the world.

A representative of the movement has recently arrived in Brazil to organize a similar association in Brazil, the largest producer of cocoa, and the indications are that unless something quite unforeseen takes place the organization will soon be effected. The success of the world movement, of course, depends upon Brazil, the largest producer. The only apparent reason why it may not succeed in Brazil is in the fact that many of the cocoa producers are not financially able to carry their crops as may be demanded by the new organization, while the absence of satisfactory banking facilities with most of them renders it difficult to help them.

OCCASION FOR MOVEMENT.

The chief occasion for the proposed organization seems to be in the somewhat extraordinary fluctuations in the price of cocoa in the

past few years, the present great depreciation offering unusual occasion for complaint. A statement issued by the projectors of the proposed combination says:

In November, 1907, the value of an arroba (about 32 pounds) of cocoa varied from 20 to 21 milreis (about $6 to $6.30). At present the same quantity of cocoa has no buyer above 9 milreis ($2.70). The lowering of price in these seven months represents, therefore, more than 50 per cent. What has passed during this short period which can explain such a notable depression? The origin of the movement to lower the prices, which commenced in November and which threatens to continue, was in not being organized to properly resist it when it commenced by reason of the excessive price to which the article had been forced by speculation. The quotation of 21 milreis per arroba represented the highest point of the ascending curve that the article had described since 1906, a point as much greater, almost, than the fair price of the article as the present price is less. The excessive price provoked a natural reaction. Taking advantage of this situation a group of powerful speculators in Hamburg, which controls numerous and active agents in Bahia, commenced a series of sales at prices more and more reduced, which succeeded in lowering prices in spite of the vigorous resistance met in Lisbon from producers of San Thomé and Principe. As is generally known these producers have been organized for a number of years with the most beneficial results.

Continuing the statement, the projectors of the Brazilian organization claim that the present situation can be expected unless producers unite to prevent the manipulation of the crop by those who are organized against them. It claims that its proposed organization is not for the purpose of speculation, but for the purpose of resisting the speculators. The statement continues:

The producers of Bahia, Para, and Amazonas are pressed in the hands of the agents of houses who contract in advance for a crop at a price much below the current quotation. Since no agricultural credit system exists in Brazil, neither bankers or private persons who loan money to agriculture, the producer, isolated and without support, abandoned to his own resources, under the circumstances takes onerous loans which oblige him to dispose of his crop under most lamentable conditions.

Without an organization of all the producers of cocoa, not only of Brazil, but of all producing countries, never will the produce be fairly quoted or the price be a living one. There is no occasion for so notable a lowering of price of an article of such world-wide consumption when the consumption is being constantly increased, and each day witnesses the enlargement of its use as a result of a spontaneous propaganda.

PLANS OF ORGANIZERS.

In their statement the organizers of the trust claim that the low price has not been due either to a lack of demand or to any possible overproduction. It is claimed that the production at present is not large enough to meet the demand, and that by reason of the peculiar demands of the crop in soil and climate the crops of the future will likely be much less than the demand for them. The statement also calls the attention of the Brazilian cocoa producers to the need of combating the adulteration of chocolate. The statement continues:

In Ecuador the matter of organization is being agitated by persons interested in cocoa production, and as Ecuador represents already a fifth of the world's production, it has great weight in the situation. Bahia, Para, Amazonas, and the over-sea Portuguese province of San Thomé and Principe represent two-fifths of the production.

If this organization is effected, as is necessary, it will constitute an invincible bar to the maneuvers of the speculators, bulls and bears, those of raw materials and those of the manufactured article. And action in conjunction with the producers of Brazil and Portugal, aided prudently and cautiously by the several governments by means of loans guaranteed by the product itself, will save

the cocoa industry. The prices of the product will become firm, free from unexpected oscillations due to speculation.

There is indispensable, then: (1) The organization of an agricultural credit system, freeing the producers from the subjection in which they now exist; (2) the organization of an association of defense, including the principal middlemen and producers of Bahia; (3) an agreement between this association and the analogous association in Portugal, which is now ready to enter into such an arrangement.

With these arms of defense the production of cocoa will take upon itself a new impulse, increasing its exports, of which the result will benefit the whole country, and placing in greater prosperity an agricultural industry so profitable.

There seems to be no doubt that the organization planned will be consummated at once. The example of the results of united action afforded by the present sugar situation in Brazil is having a strong influence upon those few cocoa men who are disposed to hold out of the combination.

BRAZILIAN PRODUCTION.

The general situation of the cocoa industry in Brazil is indicated in the following table, showing the production in Brazil for the past five years:

Year.	Bahia.	Para.	Amazonas.	Total.
1907	45,865,400	a 5,820,400	a 1,997,600	a 53,683,400
1906	50,521,695	3,854,488	786,273	55,162,456
1905	37,133,175	8,144,283	866,206	46,143,664
1904	39,639,983	9,018,953	2,216,970	50,875,906
1903	35,017,541	9,617,392	1,291,682	45,926,615

a Partly estimated.

The production of cocoa in the world at large is generally placed at about 340,000,000 pounds, of which in general Brazil produces about one-sixth, with San Thomé, Ecuador, San Domingo, Trinidad, and Venezuela following in the order named. Of this production the United States consumes about one-fifth.

ITALIAN OLIVE OIL.

DROUGHT AND THE OLIVE FLY PEST CAUSE REDUCED OUTPUT.

Consul-General James A. Smith, of Genoa, furnishes the following report on the acreage under olive trees and the production of oil in Italy:

With the exception of Piedmont, olive oil is produced in practically every part of Italy. The crop is subject, however, to very radical variations. The regular biennial recurrence of the so-called annata vuota (empty year), and the often unexpected appearance in various sections of the olive fly, against the ravages of which no adequate remedy has yet been found, account in a large measure for these variations. In 1905 the production reached a total of 90,134,800 gallons, while in 1899, owing to the exceedingly grave damage caused by the olive fly, the crop amounted to only 22,982,790 gallons.

ACREAGE AND OIL PRODUCTION.

The latest statistics as to acreage (1905) give the area under cultivation for olive growing as about 2,700,000 acres. This acreage has

been slightly increased in the past three years. The following table gives the total production of oil in Italy for the five years ending with the season of 1905–6:

Year.	Production.	Year.	Production.
	Gallons.		*Gallons.*
1901–2	85,534,400	1905–6	90,134,800
1902–3	31,304,100		
1903–4	86,119,400	Total	337,756,400
1904–5	44,663,700	Yearly average	67,551,280

The average production of the several regions, stated in the order of their importance, for the five seasons mentioned above, together with the acreage given over to olive growing in each, are shown in the following table:

Region.	Acreage.	Production.	Region.	Acreage.	Production.
	Acres.	*Gallons.*		*Acres.*	*Gallons.*
Lombardy	7,304	121,782	Southern Adriatic	954,300	19,466,687
Venetia	6,528	101,975	Southern Mediterranean	559,627	18,325,472
Liguria	125,630	2,826,751	Sicily	342,443	15,402,692
Emilia	9,761	103,032	Sardinia	61,404	1,589,054
Marches and Umbria	204,060	3,754,542			
Tuscany	305,870	5,551,796	Total	2,700,812	70,866,588
Latium	123,895	3,672,755			

The discrepancy of over 3,000,000 gallons between these figures and the average total production given in the preceding table is apparent. The data given is taken from a reliable commercial newspaper of Milan and is based upon official statistics. The cause of the discrepancy must be therefore due to the fact that the first table was a fairly accurate estimate, made without complete returns, while the latter, based upon more detailed reports from the different sections, is the more correct of the two. Although the area under cultivation for the 1906–7 season had increased fully 20,000 acres, the total production was a trifle less than 30,000,000 gallons, or about 43 per cent of the average for the five preceding years.

ESTIMATES FOR 1907–8.

The foregoing figures indicate conclusively how little dependence can be placed upon the annual production of oil. The "empty years" can usually be counted on in advance, but other causes, which can not be foreseen, contribute to short crops. Reports from practically every section of Italy for the season of 1907–8 indicate a production of from one-fifth to one-third an average crop. In some regions, it is stated, the quantity will not be sufficient for local consumption. This in spite of the fact that in the previous season recurred the usual "empty year."

The three causes contributing to this bad outlook for the season of 1907–8 are drought, recurrence in many sections of the lean year, and the olive fly. The first is called "accidental," the second natural, but the third is a question which requires the serious study and attention of economists and scientific agriculturists. Statistics show that in the past thirty years this pest has materially reduced the average production of that period. If some means are not discovered to successfully wage a war of extermination the consequences, from an

economic standpoint, can not but be serious to Italian producers of this important article of commerce.

As being of particular interest to the American trade, because of the large amount of olive oil shipped from Tuscany to the United States, and that it comprises a region where oil much in demand and of very fine quality is produced, the latest returns from Tuscany are summed up as follows: Lucca reports a crop of from one-fourth to one-third the normal quantity; Leghorn reports the outlook very bad; Grosseto confirms the appearance of the olive fly, saying that the crop will be exceedingly small; Pisa, a scarce crop, but of good quality; Siena reports drought but a fair outlook.

Oil of good quality on hand is being generally held at much higher prices, and the American dealers may look for a decided rise in price for the coming year, owing to the recurrence of two bad seasons in succession and the consequent large diminution of the stock usually on hand.

ARGENTINE GRAIN PRODUCTION.

A RAPID EXPANSION OF CEREAL CULTURE AND EXPORTS.

Consul-General Alban G. Snyder, of Buenos Aires, sends the information that the Argentine Government has just issued its report of the last harvest of wheat, linseed, and oats, and of exports up to June 30, last, which, together with additional data up to July 31, shows the following figures:

Crop.	Production crop year to July 31, 1908.	Exports crop year to July 31, 1908.	Exports same period last year.
	Tons.	*Tons.*	*Tons.*
Wheat	5,263,705	[a] 3,136,840	[a] 2,701,753
Linseed	1,100,700	864,456	778,905
Oats	492,770	383,117	147,360

[a] Including flour.

It is estimated that 1,300,000 tons of wheat and 100,000 tons of linseed are needed for consumption, while nearly the whole production of oats is exported, therefore the quantities of wheat and linseed available for export are estimated at 4,000,000 and 1,000,000 tons, respectively, leaving still to be exported this year 800,000 tons of wheat, 150,000 tons of linseed, and 100,000 tons of oats.

The present price of these grains is higher than last year, so that the comparison of this year's harvest with that of last year is favorable to the agricultural industry, while the future harvest promises still better results, the weather being so far (August 29) all that can be asked for and the area under cultivation having been considerably increased.

The report shows the following distribution of the production of grain among the provinces and territories:

Province.	Wheat.	Linseed.	Oats.	Province.	Wheat.	Linseed.	Oats.
	Tons.	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*
Buenos Aires	2,505,321	324,306	467,319	Pampa Central	207,471	7,012	4,283
Santa Fe	1,019,708	504,734	7,067	Other provinces and territories	75,000	2,800	1,800
Cordoba	1,183,409	110,448	2,500				
Entre Rios	247,796	151,410	9,800				

The cultivation of oats has made remarkable progress, the total production in 1906 having been only 53,137 tons.

The areas of land sown in grain for the last harvest, with the amount of increase over the previous year, were as follows, in hectares (hectare=2.47 acres):

Crop.	Hectares.	Increase.
Wheat	5,759,987	67,700
Linseed	1,391,467	370,000
Oats	264,098	200,000

The average production per hectare was 995 kilos (kilo=2.2 pounds) of wheat, nearly 800 kilos of linseed, and 1,735 kilos of oats.

KOREAN RICE CROP.

INCREASING PRODUCTION—LARGE CONSUMPTION IN KINGDOM.

Consul-General Thomas Sammons, of Seoul, reports that Japanese officials employed in the Korean department of agriculture, commerce, and industry estimate the rice crop for 1908 at 30 per cent greater than for numerous previous years. The details follow:

An estimated total yield of 2,720,000,000 pounds is based on the presumption that Korea contains 55,000,000 acres and that 10 per cent of the total area is under cultivation. It is further estimated that half of the total area under cultivation consists of paddy fields and that each cho, or 2.5 acres, produces in Japan 50 bushels, or 3,200 pounds, and in Korea 42.5 bushels, or 2,720 pounds, of rice. Korea's average annual rice crop is placed at 2,560,000,000 pounds.

On the basis of the average annual consumption of one koku, or 320 pounds of rice per person in Korea, this consulate-general has estimated the country's rice crop at 3,200,000,000 pounds per annum. In 1907 only 6.25 per cent of Korea's rice crop was exported.

ROUMANIAN WHEAT CROP.

REDUCED ACREAGE AND YIELD—OTHER FARM PRODUCTS.

Consul-General Norman Hutchinson, of Bucharest, reports that the agronomical station of Herestrau, of Roumania, has submitted its report to the Minister of Agriculture upon the wheat crop of this year, which is summarized as follows:

Contrary to previous reports, the crop of 1908 is even less satisfactory than the crop of 1907. Owing to the dryness of 1907 the cultivators planted 250,000 hectares (hectare=2.47 acres) less this year, the total being 1,750,000 hectares. The excessive dryness of the early part of this year hindered the proper development of the wheat, also hastening its maturity, the harvest commencing at least ten days earlier than usual. The crop has been ordinary, reaching not more than 23,000,000 hectoliters (hectoliter=2.84 bushels), though the quality is good. In general, the wheat of this year is heavy, clear, and of good aspect. A remarkable point is that 25 per cent of this year's wheat weighs more than 80 kilos (kilo=2.2 pounds) per hectoliter. In the majority of districts the average quantity of wheat harvested per

hectare was 13 hectoliters. About 10,000,000 hectoliters will be left over after the country's needs for exportation, principally to Belgium. The prices being good, with a tendency to rise, the majority of the wheat growers will find a compensation for the reduced crop.

Corn, barley, oats, and rye are reported as making a good showing all over the country, and the beet crop is sufficient for the demand of the country. The vines are showing abundant production, although in the districts of Falciu and Tecuci the vines are suffering from the phylloxera. The prune crop will be a rich one, and fruit trees in general have done very well.

GINGER PRODUCTION.

METHODS USED BY CHINESE AT CANTON.

Vice-Consul-General Willard B. Hull, of Canton, advises that there are several firms in Canton, China, who export ginger to the United States, but not in its fresh green state, as it is impossible to keep the roots for more than two or three days without preserving them. Mr. Hull describes the method followed by the Chinese in preserving the fresh ginger. [Names of firms alluded to are filed with Bureau of Manufactures.]

The roots are first thoroughly cleaned in water, then boiled in pans for two to three hours; then transferred to copper pans and boiled for two hours in a mixture of Java or Sumatra white sugar and water, just sufficient water to cover the roots, 5 pounds of sugar to 10 pounds of ginger, the roots having been pierced with a sharp instrument to enable the sugar to soak into them. After boiling, the ginger is put into large jars and stands for seven days, when it is again boiled in sugar and water in the same quantities. After it has become cold it is packed in jars or tins for export.

To crystallize the ginger the same process of boiling should be performed, but it should be boiled until the sugar becomes quite dry. The Chinese season for preserving ginger is from July to October.

CRUSHING FILBERTS IN SPAIN.

THE SHELLING APPARATUS IS A SIMPLE POWER MACHINE.

From a communication addressed to the American consul at Trebizond, Turkey, by the consular agent at Tarragona, Consul-General Frank D. Hill, of Barcelona, extracts the following:

The crushing of filberts is done to a large extent by hand labor (principally female, as being the more economical) in the districts where the fruit is grown. There is really no scientific machinery for effecting the operation, but merchants and exporters have contrived a shelling apparatus, no inventor of which is known, and which, primitive as it is, gives satisfactory results.

The crushing of the shell being effected in an ordinary grinding or bruising mill, the kernel and shells run promiscuously by their own weight into the apparatus. The latter consists of a long caisson,

fixed in a slightly inclined plane, its bottom consisting of wire netting whose meshes increase in size as it extends farther away from the mill and feeder.

A long cone revolves within the caisson, and progressively impinges the filberts over the meshes, they falling through the openings of corresponding size into a receptacle. A very small proportion of shell also falls through, which is picked out on large inclined tables, but by far the greater part is left behind in the caisson, whence it is emptied from time to time These contrivances give entire satisfaction and may be worked by hand power or by motor. The entire cost of the operation is reported to be less than 20 francs ($3.86) per ton. The cost of the apparatus is about 800 francs ($154.40).

FRENCH WALNUT ASSOCIATION.

GRENOBLE GROWERS COMBINE TO IMPROVE THE CROPS.

Consul C. P. H. Nason deems it of interest to American dealers in walnuts to report that there has been formed an association of French growers of walnuts in the neighborhood of Grenoble under the title of Syndicat de Propriétaires de Saint-Quentin-sur-Isère, Noix de Grenoble, to which he adds, under date of October 28:

It has for its object to maintain the reputation and guarantee the quality of the walnuts of the lower valley of the Grésivaudan-nuts, commonly known as "Grenobles," and to the trade as "Mayettes," to furnish American buyers these nuts without admixture with inferior qualities, to arrange among themselves terms of sales and deliveries, and in general to conduct the business in a thoroughly loyal manner.

According to the by-laws, the several growers are to report upon the quantity and quality of their respective harvests and to observe, under penalties of failure, indicated methods of packing, selling, and shipping. The sacks or bales of nuts when prepared for market to carry a special mark, to be fastened and sealed by a lead impress, and their contents to be verified. It is their purpose also to study the best methods of walnut cultivation, to increase the number of trees by progressive planting, to intensify the fruit by judicious grafting, and to improve it in size, color, and taste in every way possible.

This year's nuts, spread out for drying on latticed floors in the several granaries, personally visited, present a fine appearance in size, uniformity, brightness of color, and are of excellent taste. The percentage of unsound nuts is also much less than usual. The opening prices are in accord with estimates previously reported, with tendency downward, because it would seem American buyers are not hurrying as in former years to place their orders. The same may be said of the "Chabertes," nuts of a smaller variety for confectionery uses.

TOBACCO.

CULTURE AND MARKETS.

GERMANY.

AMERICAN TOBACCO THIRD PLACE ON THE IMPORT LIST.

The following statistics, covering the tobacco imports into Germany and the relative standing of the American product in that market, are furnished by Deputy Consul-General John W. Dye, of Berlin:

Germany is a large consumer of certain kinds of tobacco. The people smoke millions of mild German-made cigars and to a less extent cigarettes. Smoking tobacco and snuff are still used in considerable quantities in some parts of the Empire. Germany and its colonies are not extensive growers of tobacco, therefore the importation of most of the raw material is necessary. Of the tobacco imported raw leaf takes the leading place. The exports of tobacco from Germany are merely nominal compared with the imports and are scattered mostly among other European countries. As a consequence, this report will deal with Germany only as a consumer of tobacco and not as a producer.

The following statement, compiled from official statistics, shows the total imports of tobacco into Germany for the past five years:

Countries.	1903.	1904.	1905.	1906.	1907.
LEAF.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
United States	8,644	9,094	11,359	7,078	7,258
Dutch India	20,976	22,048	27,593	24,841	34,287
Brazil	12,338	12,739	16,232	10,800	11,936
Netherlands	5,450	5,850	6,988	3,029	1,183
Santo Domingo	3,922	3,780	4,413	.....	4,562
Turkey in Europe	2,010	1,911	2,562	.....	2,796
Turkey in Asia	1,024	1,321	1,944	.....	1,723
Colombia	2,039	1,992	2,154	.....	2,102
Cuba	1,122	1,436	2,193	.....	721
Mexico	1,094	1,072	1,101	.....	788
All other countries	1,852	1,906	2,597	12,061	1,660
Total	60,471	63,149	79,136	57,799	69,016
Total value	$21,493,780	$22,276,086	$27,875,036	.....	$30,059,162
STEMS AND STALKS.					
United States	1,966	1,860	2,003	1,292	1,605
All other countries	57	54	25	21	35
Total	2,023	1,914	2,028	1,313	1,640
Total value	$101 15	$95,676	$101,388	.....	$70,210
CHEWING, SNUFF, ETC.					
Brazil	454	447	516	348	460
Denmark	37	38	36	.....	36
All other countries	158	171	172	270	97
Total	649	656	724	618	593
Total value	$229,194	$289,884	$318,444	.....	$280,602

Countries.	1903.	1904.	1905.	1906.	1907.
CIGARS.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
Cuba	128	125	125	102	102
Austria-Hungary	58	67	72	82	109
Netherlands	77	86	87	70	97
Switzerland	23	26	33	39	64
All other countries	51	49	58	45	64
Total	337	353	375	338	436
Total value	$1,709,792	$1,764,056	$1,874,250	.....	$1,791,664
CIGARETTES.					
Egypt	272	317	400	222	139
Austria-Hungary	106	156	207	201	294
Russia	100	115	132	103	47
All other countries	63	71	99	210	50
Total	541	659	838	736	530
Total value	$2,212,012	$2,533,748	$3,217,998	.....	$1,976,828
TOBACCO SAUCE.					
United States	590	648	814	704	848
Switerland	274	285	316	241	282
All other countries	130	138	121	155	75
Total	994	1,071	1,251	1,100	1,205
Total value	$236,572	$254,898	$297,738	.....	$286,790

The imports of leaf tobacco from the Dutch East Indies, Santo Domingo, and Turkey in Europe are on the increase, this being especially true of the imports from the Dutch East Indies. The imports from the United States still hold third place, but have fallen off about 1,400 tons since 1903. The imports from Brazil and Holland have also decreased to a considerable extent, but the former large quantity imported from Holland probably originated in the Dutch East Indies and was merely shipped by way of Holland.

AMERICAN TOBACCO IN THE GERMAN MARKET.

In answer to inquiries made of several large German tobacco manufacturers the following information was obtained in reference to the market for American tobacco in Germany:

For the past five years American leaf tobacco has largely been replaced by tobacco from Java and Sumatra and to a less extent by tobacco from Santo Domingo. The cigar manufacturers claim they are not dependent on American leaf tobacco as Dutch East Indian tobacco now fills all requirements. American Kentucky and Virginia tobacco, however, is still considered necessary for the manufacture of chewing tobacco and snuff. The falling off in imports of American tobacco into Germany in the past few years is attributed to the relatively high price of the American product compared with tobacco from other countries.

The prediction is made by all those consulted that in case the prices of American tobacco were raised the imports would decrease accordingly. The tobacco business is not a Government monopoly in Germany as in France and Austria and the competition in buying is very keen.

PRICES OF TOBACCO IN GERMANY.

The following statement shows the wholesale prices of unmanufactured tobacco in the five years ended with 1907 in three leading tobacco markets of Germany, the figures being obtained by the im-

perial statistical bureau from the boards of trade of the cities of Bremen, Hamburg, and Mannheim.

Statement showing the wholesale prices, per 220 pounds, of unmanufactured tobacco in Germany during the last five years, duty unpaid:

Description.	1903.	1904.	1905.	1906.	1907.
BREMEN:					
Kentucky, common	$15.51	$12.92	$12.78	$15.09	$18.83
Brazil	20.54	19.52	21.44	23.90	29.94
Stems, Virginia, medium	3.57	3.57	3.57	3.86	4.24
HAMBURG:					
Domingo, wrappers and fillers	12.14	13.73	16.00	17.69	18.35
Brazil	21.04	20.61	21.13	25.30	29.89
MANNHEIM:[a]					
Pfälzer:					
Inner wrappers	23.54	23.04	22.59	25.25	30.04
Inner wrappers and fillers	20.49	19.94	19.52	21.87	24.89
For cutting	17.42	17.80	17.47	17.35	21.42

[a] Home grown, not dutiable.

The following table, showing the figures covering the German tobacco crop for 1907, with comparisons with previous years, is from the publications of the German Imperial Statistical Bureau:

Year.	Number of growers.	Planted.	Weight of crop.	Average per acre.	Average value per cwt.	Value of crop.
		Acres.	*Cwt.*	*Cwt.*		
1890	180,200	49,702.58	934,142.63			
1895	157,028	52,272.46	1,070,255.93			
1900	114,654	36,450.37	766,990.36			
1905	93,119	34,868.91	702,399.29			
1906	97,139	36,284.45	707,131.81	19.48	$10.18	$7,195,027
1907	96,868	38,066.01	635,808.95	16.71	10.12	6,429,088

NORWAY.

INDIRECT AND DIRECT IMPORTS OF AMERICAN TOBACCO.

The following information concerning the tobacco trade of Norway is furnished by Consul-General Henry Bordewich, of Christiania:

The imports of tobacco into Norway during the last five years, together with the direct imports from the United States during four of the same years, were as follows:

Year.	Total imports.	Direct imports from the United States.
	Pounds.	*Pounds.*
1903	3,856,066	
1904	2,854,963	715,290
1905	2,956,376	556,208
1906	3,487,690	786,502
1907	3,877,025	[a] 820,000

[a] Estimated.

The bulk of tobacco imported into Norway is still, for various reasons, coming through Hamburg and Bremen jobbers, but large portions of such tobaccos are also of American origin, although not set down in the statistics as such.

TRADE WITH THE UNITED STATES.

Of the direct imports from the United States only about 10 per cent is Kentucky and Tennessee tobacco; the balance is Virginia.

Nearly all smoking tobacco and cigars in Norway are manufactured from Virginia tobacco—the best smoking tobacco from leaf, the poorer principally from stem and lugs. One of the foremost Norwegian manufacturers of tobacco has for many years purchased his stock direct in the American market through a resident purchasing agent. This manufacturer, whose office and factory are located at Christiania, also sells both manufactured and unmanufactured tobaccos to smaller tobacco dealers and manufacturers in other Norwegian towns, as well as in the rural districts, who are allowed long credits on running accounts. His traveling salesmen visit all parts of the country regularly.

Some years ago this consulate-general succeeded in establishing a connection between an American tobacco house and a Christiania party, who sells to manufacturers on a commission basis and by samples. The business has been growing steadily and appears to give good satisfaction to both of the interested parties.

DUTY—NORWEGIAN-GROWN TOBACCO.

The duty on tobaccos imported into Norway is as follows: Stem and lugs, natural leaf, and leaf manufactured (sauced), 60.3 cents per 2.2 pounds; cigars and cigarettes, $1.61 per 2.2 pounds.

In the district of Sogn, on the west coast, some of the farmers are raising tobacco on a small scale; the average output may be valued at $67,000 per annum for the raw product. The Government has, in order to protect its revenues derived from the tobacco imports, imposed a special tax on the tobacco raisers. This makes the profits of their enterprise small and uncertain. [A list of the principal tobacco manufacturers and importers in Norway is on file in the Bureau of Manufactures.]

AUSTRIA.

INDUSTRY IS A GOVERNMENT MONOPOLY—IMPORTS EXCEED EXPORTS.

Consul-General W. A. Rublee, of Vienna, forwards the following report on the tobacco business of Austria-Hungary, with a statement as to the probable effect of a rise in price of American leaf:

The tobacco industry in Austria is a Government monopoly. The cultivation, manufacture, and sale of tobacco is controlled by Government officials. There are two distinct offices for the management of the business, one for Austria and one for Hungary. In Austria the total area planted in tobacco is 12,444 acres. The acreage in Hungary is over four times greater. The regions where tobacco is grown in Austria are in the provinces of Dalmatia and Galicia, a very small amount being grown in southern Tyrol.

The director of the tobacco monopoly in Austria states that in case of a material rise in the price of American tobacco there would be an immediate reduction in the purchases, and tobacco from other countries would be substituted. It is thought that suitable tobacco would in such case be obtained from South America and South Africa, and that the home production would be increased. At present all of the tobacco grown in Austria is used by the Government factories. The raw tobacco exported is of Hungarian origin.

Statistics concerning imports and exports are for the whole of *Austria-Hungary*, and the value of imports for 1905 and 1906 was

$9,109,491 and $9,406,019, respectively; of exports, $1,798,425 and $2,015,694, respectively.

Detailed statistics of the imports and exports of tobacco and manufactures of, by countries, for 1905 and 1906 follow:

IMPORTS.

Countries.	1905.		1906.	
LEAF TOBACCO.	*Tons.*		*Tons.*	
Netherlands	80.19	$16,767	164.12	$41,179
Russia	2,713.26	236,793	2,150.61	218,971
Roumania	660.33	121,260	.....	.....
Turkey	9,526.20	2,961,788	8,089.50	2,603,351
Greece	1,235.63	262,852	495.88	54,997
British India	9.24	403	.....	.....
Dutch Indies	3,887.62	2,714,265	4,420.35	3,094,245
Asia	1,308.34	271,183	2,845.57	589,813
United States	3,345.76	912,480	4,505.05	753,572
Cuba	1,207.36	434,649	721.05	391,989
Brazil	1,368.51	348,348	2,957.02	795,507
Other America	29.43	3,001	23.32	4,579
Total	25,371.87	8,283,789	26,372.47	8,548,203
SMOKING AND CIGARETTE TOBACCO.	*Pounds.*		*Pounds.*	
Germany	660	1,140	.....	.....
Great Britain	3,520	1,401	3,520	1,401
Brazil	.....	.....	220	380
Total	4,180	2,541	3,740	1,781
CIGARS.				
Hamburg (free port)	440	1,960	.....	.....
Bremen (free port)	.....	.....	220	980
Germany	12,320	54,880	14,300	63,700
Great Britain	1,100	4,900	880	3,920
Belgium	.....	.....	220	980
Netherlands	.....	.....	660	2,940
Egypt	.....	.....	1,100	4,900
Cuba	42,900	200,300	49,520	230,317
Asia	4,620	9,601	5,720	12,001
Mexico	9,680	24,596	12,320	29,601
Total	71,060	296,237	84,940	349,339
CIGARETTES.				
Germany	4,620	22,260	4,840	23,320
Great Britain	880	4,240	2,100	10,600
Russia	1,540	7,420	880	4,240
Turkey	26,000	67,532	25,960	76,156
Egypt	147,620	424,012	120,560	390,721
Cuba	660	1,460	440	600
Greece	.....	.....	220	1,060
Total	181,320	526,924	155,000	506,696

EXPORTS.

LEAF TOBACCO	*Tons.*		*Tons.*	
Germany	687.72	$68,772	882.20	$101,052
Switzerland	597.41	59,741	461.78	52,895
Italy	24.20	2,420	.....	.....
France	2,232.61	223,267	2,367.53	271,189
Belgium	22.22	2,222	37.18	4,259
Netherlands	1,893.76	189,376	1,784.97	204,460
Denmark	208.23	20,823	216.37	24,784
Great Britain	1,708.02	170,852	1,177.66	138,895
Roumania	1,413.28	141,328	716.43	82,064
Egypt	348.04	34,804	679.80	77,868
Algiers	21.45	2,145	17.60	2,016
Tunis	81.07	8,107	.....	.....
Morocco	85.80	8,580	.....	.....
Spain	.....	.....	1,109.13	127,046
America	.....	.....	76.23	8,732
Total	9,323.81	932,437	9,526.88	1,095,260

EXPORTS—Continued.

Countries.	1905.		1906.	
TOBACCO SAUCE.	*Tons.*		*Tons.*	
Germany	246.73	$51,589	38.01	$9,071
Argentine Republic	16.50	3,450	.....	.....
America	.....	.....	1.65	348
Total	263.23	55,039	39.66	9,419
SMOKING AND CIGARETTE TOBACCO.	*Pounds.*		*Pounds.*	
Fiume (free port)	8,140	4,492	8,360	4,332
Germany	80,740	44,554	53,020	27,588
Switzerland	4,180	2,306	3,740	1,938
Netherlands	220	121	440	228
Denmark	220	121	880	456
Great Britain	220	121	440	228
Sweden	220	121	.....	.....
Norway	220	121	.....	.....
Asia	220	121	220	114
Africa	1,320	728	.....	.....
United States	11,000	6,070	16,500	8,550
Canada	5,500	3,035	.....	.....
Brazil	660	364	.....	.....
Chile	660	364	.....	.....
Australia	1,760	971	2,640	1,368
Belgium	.....	.....	220	114
Total	115,280	63,610	86,460	44,916
CIGARS.				
Fiume (free port)	2,000	2,316	1,320	1,560
Germany	145,640	170,398	195,360	230,880
Switzerland	10,460	12,355	6,600	7,800
Netherlands	440	514	220	260
Great Britain	660	772	1,980	2,340
Bulgaria	660	772	660	780
Servia	1,100	1,287	1,760	2,080
Egypt	1,100	1,287	.....	.....
United States	220	$257	.....	.....
Argentine Republic	880	1,029	.....	.....
Chile	1,320	1,544	.....	.....
Turkey	.....	.....	1,100	1,300
Asia	.....	.....	220	260
Africa	.....	.....	1,980	2,340
America	.....	.....	1,320	1,560
Total	164,480	192,531	212,520	251,160
CIGARETTES.				
Fiume (free port)	660	794	660	662
Germany	423,280	509,475	513,700	515,101
Switzerland	7,040	8,473	8,580	8,603
Netherlands	440	529	440	441
Denmark	880	1,059	880	882
Great Britain	4,860	3,442	1,100	1,103
Sweden	220	265	.....	.....
China	2,420	2,914	.....	.....
British India	1,760	2,118	.....	.....
Dutch Indies	440	529	.....	.....
Egypt	4,180	5,031	.....	.....
United States	660	794	.....	.....
Argentine Republic	220	265	.....	.....
Chile	2,200	2,648	.....	.....
Australia	1,760	2,118	.....	.....
Portugal	.....	.....	220	220
Belgium	.....	.....	220	220
Asia	.....	.....	17,160	17,207
Africa	.....	.....	1,980	1,985
America	.....	.....	6,820	6,838
Total	451,020	540,454	551,760	553,262
SNUFF.				
Germany	39,840	9,529	42,680	10,864
Switzerland	10,560	2,659	13,420	3,416
Cape Town	220	55	.....	.....
United States	440	111	1,100	280
Total	51,060	12,354	57,200	14,560

Other manufactured tobacco was exported in 1906 as follows: To *Germany,* 460,760 pounds, value, $45,425; to the United States, 16,280 *pounds, value, $1,702.*

PORTUGAL.

MONOPOLY OWNED BY A STOCK COMPANY—EXTENT OF OPERATIONS.

Consul-General Louis H. Aymé, of Lisbon, in stating that the manufacture and sale of tobacco in Portugal is a Government monopoly, the concession to carry on which was sold to a company, gives the following particulars of its operations:

The Companhia dos Tabacos de Portugal is a limited liability stock company, whose capital stock is 9,000,000 milreis. The par value of shares is 90 milreis; present value 48 milreis. (As the gold value of the milreis has varied, the values given may be taken as equivalent to United States dollars. The present low rate of shares is partly due to litigation among the stockholders.) The majority of shares is held by various banking institutions in Lisbon and Oporto, and in Paris, France.

The duration of the concession, which is for Portugal only, is nineteen years—from 1907 to 1926. Amount paid for the concession was 6,500,000 milreis, payable in four installments. The declared dividends and profits paid have been as follows: In 1903–4, 1904–5, and 1905–6, 1,077,777 milreis each year, or 20 per cent per annum; in 1906–7, 2,020,516 milreis, or 24.64 per cent. The quantity of tobacco manufactured during 1907–8, 1,954,883 kilos (kilo=2.2 pounds) of the value of 8,606,762 milreis, thus divided, the sellng price being also appended:

	Kilos.	Milreis.	Selling price per kilo.		Kilos.	Milreis.	Selling price per kilo.
			Milreis.				*Milreis.*
Snuff	122,665	367,914	2.7 to 5	Cigarettes	730,659	3,298,816	4.5 to 4.6
Cigarette tobacco	526,563	2,287,328	4 to 5	Cigars	415,630	1,738,874	4.2 to 8
				Small cigarettes	159,365	913,830	5.5 to 6

The commissions and sales bonus amounted last year to 13.3 per cent and for the four previous years to 15.09 per cent, 15.11 per cent, 15.15 per cent, and 15.18 per cent. Leaf tobacco is chiefly used, and imported from the United States, Central and South America, and the Orient.

The colonies the exports to which reach an important figure are, with amounts and values:

	Kilos.	Milreis.		Kilos.	Milreis.
Angola	49,037	50,640	Santo Thomas and Principe	82,086	74,882
Cape Verde	36,031	32,017			
Guinea	1,571	1,638	Total	278,195	257,827
Mozambique	109,470	98,650			

The company under its present contract has raised the selling price 10 per cent in order to meet its new charges. The difference between 6,520,000 milreis and 4,500,000 milreis, the price paid for the previous concession, justifies the increase in the selling price. During the first year of the existing concession there was a great falling off in sales, amounting on the Continent to 19.04 per cent and over sea to 21.68 per cent. This was undoubtedly due to the distressing period the country has gone through, to its agricultural, commercial, and industrial crises, etc., which have gravely reflected, both financially and commercially, on public and private economy.

SPAIN.

CULTIVATION PROHIBITED—IMPORTS FROM DIFFERENT COUNTRIES.

In answer to inquiries, Consul R. M. Bartleman, of Madrid, furnishes the following information relative to tobacco in Spain:

The cultivation of tobacco in Spain is prohibited; nothing, therefore, can be said with reference to production, methods of cultivation, etc. The tobacco monopoly in Spain is held by the Compania Arrendataria Tabacos, for which it pays the Government, in postage and revenue stamps, for the privilege of selling tobacco, about $35,000,000 per annum. The monopoly some two years ago began to purchase Brazilian tobacco at Hamburg and Bremen, in order to replace, little by little, the American product which it formerly purchased in the United States and in other markets. It is now said that the monopoly is thinking of forming, in conjunction with other tobacco purchasing countries, a "trust" to lower the price of American tobacco, and, should it not succeed, to purchase tobacco in other markets. Tobacco is one of the principal exports from the United States to Spain.

The following statement shows the imports of tobacco and tobacco manufactures into Spain during the four years ended with 1906, the latest year for which details are available:

Whence imported.	1903.	1904.	1905.	1906.
Leaf:	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	21,459,195	28,276,713	21,210,152	9,875,060
Philippines	11,379,598	13,128,388	12,115,175	10,299,302
Germany	319,858	6,964,082	7,063,230	5,086,168
Netherlands	4,245,482	4,094,418	3,941,648	9,127,758
Cuba	5,263,579	2,063,757	4,192,302	53,246
Austria	.....	.....	241,518	1,121,700
Other countries	331,379	1,213,711	142,978	1,093,466
Total	42,999,091	55,741,069	48,907,003	36,656,700
Cigars	124,076	120,692	89,780	167,664
Cigarettes and fine tobacco	2,328	3,004	4,087	5,489
Imports for individuals	52,522	17,742	22,507	41,048

The imports for 1907, for which no details as to countries whence imported are available, were as follows: Leaf tobacco, 57,545,417 pounds, valued at $4,297,442; cigars, 98,981 pounds, valued at $211,493; cigarettes and fine tobacco, 3,487 pounds, valued at $4,011; imports for individuals, 15,104 pounds, valued at $27,632.

AUSTRALIA.

EXTENSIVE USE OF THE PIPE—AMERICAN LEAF SUPPLIES.

Vice-Consul-General A. P. Merrill, in writing from Melbourne that the consumption of tobacco in Australia is unusually large for the population, gives the following particulars:

Men of all degrees and ages smoke. In the interior of Australia the pipe is used in preference to cigars and cigarettes, although the latter are extensively used both in the town and country. The pipes used are mostly brier. There is no doubt that the occupations of the country, such as grazing and mining, are responsible for the large amount of smoking, as it conduces to fraternity, and, as is well known, it is one of the greatest levelers in social life. Some idea of the surprising quantity of tobacco consumed in pipe,

cigar, and cigarette smoking in this country may be gained from the fact that the total weight of the manufactured article turned out by factories in the State of Victoria alone in 1907 was 5,240,547 pounds, equivalent to nearly 2,420 tons.

The following table, compiled by the government statist of Victoria, shows the annual manufacture in that State from 1903 to 1907 and the large increases:

Description.	1903.	1904.	1905.	1906.	1907.
Tobacco, made.....pounds..	2,300,076	3,166,767	3,981,357	4,650,113	4,782,061
Cigars.....number..	9,336,975	12,419,426	14,324,536	18,762,205	17,740,782
Cigarettes.....do....	58,928,535	73,304,100	103,673,300	131,161,460	146,699,600

Almost all of the raw material used in these manufactures is of American origin. In addition to the above output, the State in 1907 imported the following quantities, mostly from the United States: Manufactured tobacco, 338,808 pounds; cigars, 79,849 pounds; cigarettes 24,555 pounds.

CUBA.

MEDIUM CROP AND GREATLY REDUCED PRICES.

Consul-General James L. Rodgers, of Habana, furnishes the following information concerning the unsatisfactory condition of the tobacco trade of Cuba and the causes thereof:

Up to the present time no accurate or even halfway satisfactory statistics as to the crop just made or that to come are obtainable, owing to the fact that, anticipating greatly reduced prices, the planters refrained from giving out information relative thereto and the buyers being content to wait. The drought which existed in the early spring months had its effect also, and aided in this inactivity which continued until the opening of the summer. When buying and selling did begin, it was announced that the 1907 price had been reduced by more than one-half, and that the continuance of this programme might be expected. The trade is now (August 5) going along briskly and baled tobacco is being delivered fast, but at greatly reduced prices. The planters are consoling themselves with the statement that the prices are about at the normal which prevailed prior to 1907.

A great deal of the tobacco was affected by the cold period of January, 1908; climatic conditions later injured it, and owing to the high price and the difficulty of obtaining labor there was insufficient cultivation, the result being that which the experts generally would call only a crop of medium quality. That the quality, as well as the determination of the buyers to reduce prices, is being taken into account is well known.

The acreage of the crop about to be planted will, in sympathy with these circumstances, be reduced somewhat, but not largely, as the majority of the people who plant tobacco in Cuba are, generally speaking, dependent upon it for their support, and therefore must plant nearly their usual acreage. In most cases of reduced plantings the difficulty of securing advances of money will be as much responsible as the fear of lower prices for the product.

CHILE.

THE TRADE IN FOREIGN TOBACCO AND ITS MANUFACTURES GROWING.

Consul Alfred A. Winslow, of Valparaiso, furnishes the following information concerning the trade in tobacco in Chile:

During 1907 there were imported into Chile 1,103,957 pounds of tobacco in its various forms, against 980,139 pounds for 1906. In each case cigars and cigarettes are included. The following statement shows the imports from the several countries for the past three years in United States currency:

Countries.	1905.	1906.	1907.	Countries.	1905.	1906.	1907.
United States	$454	$2,722	$10,653	Spain	$239	$461	$2,062
Cuba	65,387	67,930	84,266	Mexico	.....	.....	756
Germany	14,930	21,769	30,534	Ecuador	.....	1,322	629
United Kingdom	8,471	8,541	20,254	Holland	.....	248	252
France	11,164	7,320	18,983	Bolivia	10,556	.....	.....
Italy	11,180	9,691	8,657	Brazil	848	.....	.....
Panama	32,090	42,298	4,371				
Belgium	239	188	2,228	Total	155,558	162,490	183,645

It will be noticed from the foregoing table that the United States has been making progress, but still stands fifth, when it should not be below second, if not first. This is a growing business and it is well worth the attention of American interests. There is no reason why we have not more of this trade, save that it has been very largely left to take care of itself.

The duty on tobacco varies from 95 cents gold per kilo of 2.2 pounds, to $1.82 per kilo; $2.19 per kilo for cigars, and $3.28 per kilo for cigarettes.

There is some very good tobacco raised in Chile, but it will be some years before enough is raised to supply the growing demand. The consumption is on the increase.

HIDES AND LEATHER.

FOOTWEAR TRADE.

BRAZIL.

TASTES OF CUSTOMERS SHOULD BE STUDIED AND CATERED TO.

Consul George H. Pickerell, of Para, in the following report calls the attention of exporters of American shoes to Brazil to some of their shortcomings:

Several photographs are forwarded of the only store in this city that has for its object the sale of American made shoes. Since 1906 several stores have taken up the sale of our shoes, and I find that they are inclined to be popular—so much so that some of the Brazilian factories are now advertising shoes made on the American last. American shoes are well liked in Brazil, but are too expensive to come into general use. A shoe that sells in New York City for $3.50 to $4 sells here at $7.50 to $9, and the higher priced makes run to $12 per pair. Many circulars and catalogues are sent here, the majority of which are printed in a foreign language and contain not a line that will be of any real service or give the information required before an order can be placed or assist in determining whether it will be possible to pay the duty and yet be within the reach of customers. Due to this lack of interest it makes it difficult at times to get what purchasers want, and it often happens that the desired sizes are not in stock. This should not be allowed to occur, and if it continues will have a tendency to permit other than American makes to be introduced. There are a number of ways in which traveling men could be of assistance, and not the least important would be the study of the likes and dislikes of their Brazilian customers.

CHILE.

LOCAL FACTORIES ARE EQUIPPED WITH AMERICAN MACHINERY.

Consul Alfred A. Winslow contributes the following information on the manufacture and sale of footwear in Chile:

The manufacture of shoes in Chile by machinery is increasing rapidly. A short time ago the first shoe factory employing machinery was opened at Valdivia, and now there are twenty-two well-equipped factories of various sizes located in different cities of the country. A large percentage of the shoe machinery in use in Chile is from the United States. France comes next, followed by England.

There are still in this country a large number of shoe shops where from ten to a dozen men are employed making shoes by hand. The wages paid these men are small, being from 50 to 80 cents per day.

Practically all the cheaper shoes worn in Chile are made in this country from native tanned leather. This is the class of shoes generally worn by the working class and farmers. Shoes retail at from

$1.20 to $1.50 United States gold, and a better grade made from native leather for dress shoes from $2.50 to $2.75. Then come those with imported uppers and native soles, which is a very good shoe. The uppers will generally wear out two or three soles, for the sole leather is of an inferior quality. This grade of shoes retails at $4 to $4.75.

Shoes were imported during the year 1907 to the value of $127,609, of which the United States furnished $11,477, against $61,142 for England, $29,617 for France, and $17,218 for Germany. [A list of the shoe factories and tanneries in Chile is filed with the Bureau of Manufactures.]

CANADA.

RUBBER FOOTWEAR IN BRITISH COLUMBIA.

Consul-General George N. West, of Vancouver, writes that the miners of British Columbia do not use rubber boots and shoes, they preferring a leather shoe with a 12-inch leg, retailing at $8 per pair. Some American rubber boots, at $12 per pair, are on the market. There are large numbers of lumber men, and, as there is a great deal of wet weather, they use rubber footwear extensively, while the population generally are large users of lighter weight rubber goods. The names of the wholesale and retail dealers in rubber footwear in Vancouver are filed with the Bureau of Manufactures.

GERMANY.

CONDITIONS OF THE SHOE MARKET MOST UNSATISFACTORY.

The following report, covering the condition of the shoe market of Germany and the output of German-made boots and shoes, is furnished by Consul Will L. Lowrie, of Erfurt:

According to the estimate of a shoe manufacturer in Erfurt, where the largest shoe factories in Germany are located, the autumn and winter demand for footwear will be unusually large. Conditions thus far in 1908 have been most unsatisfactory, and the factories are operating with reduced forces.

This Erfurt manufacturer describes the market as follows:

Judging from the market reports, a decided increase in the fall shoe trade is to be expected, as the spring and summer demand has been most unsatisfactory. A material increase in demand, therefore, will be felt, in all probability. This will vary according to locality. The demand for heavy working shoes for industrial districts will experience an increase over that of last spring. It is hardly reasonable to assume that the slackness of trade will extend over two seasons. In the large cities, however, where the sale of light-weight footwear is considerable, conditions are somewhat less promising, especially in the line of ladies' dancing slippers.

MANUFACTURE AND EXPORT.

At present work in the shoe factories is very slack. It is reported from Weissenfels that this year's output has fallen far behind that of former years in volume, and it is hoped that the poor spring and summer trade will be supplemented by a brisk fall trade. Reports from Berlin, as well as from Frankfort-on-the-Main, Magdeburg, Leipzig, and Pirmasens are anything but sanguine. The lack of large orders is sorely felt, and few, if any, of the factories are working full force. In some instances the staff of employees has been decreased to an unusual extent. This is especially the case with medium-sized and small factories. The old style of handmade goods has been almost obliterated. The fine custom-boot maker of the larger cities, however, is not affected in the least

by the fluctuations of the trade, as it is a simple matter for him to regulate prices to conform to the general conditions.

The export trade has little effect upon the German shoe industry, the total export amounting to only 18,000,000 to 20,000,000 marks ($4,284,000 to $4,760,000) a year, which is a small percentage in a total output of 600,000,000 marks ($142,800,000). During the first seven months of this year the exports of shoes from Germany amounted to 9,750,000 marks ($2,320,500), a decrease of 200,000 marks ($47,600) compared with last year. It is reasonable to expect that, with existing conditions of trade, augumented by the inability or unwillingness of the manufacturers to combine, factory prices can not be satisfactory to the manufacturers. Conditions in the shoe trade are such that the dealers balk as soon as an increase in the factory price is mentioned; in fact, they are making every attempt to have the present scale of prices reduced. On the other hand, the cost of leather has been subject to further advances recently, due to the increased cost of hides.

The following is a scale of recent prices for shoe leather, as regulated by the Leather Dealers' Commission in Berlin, per kilo (2.2 pounds):

Description.	August 1.	September 1.	Description.	August 1.	September 1.
Sole leather:	*Cents.*	*Cents.*		*Cents.*	*Cents.*
Central German..	52.8 to 67.8	56.7 to 70.0	Cowhide.....	59.5 to 71.4	61.9 to 73.8
North German....	38.1 to 82.3	40.4 to 56.7	Croupons of North German deerskins..	47.6 to 76.1	50.0 to 78.5
Inner sole leather, German	61.9 to 66.6	34.5 to 50.0			

Prices of other materials used in the manufacture of shoes remain practically unchanged, but the general tendency is upward.

FINISHED LEATHER TRADE.

ITALY.

A TRADE OPPORTUNITY SPOILED BY INFERIOR SAMPLES.

Consul Arthur S. Cheney, of Messina, furnishes the following information concerning the spoiling of a fair trade opportunity for American leather in that Italian city:

Following the report from this consulate last spring on the "Leather industry of Sicily," printed in the Consular Reports, great effort was made to secure the reintroduction of American leather into this district. A resident American broker was stimulated to send for some samples and to try to obtain at least some trial orders from local shoe manufacturers and other leather consumers. A short time ago the samples were accordingly obtained from one of the largest American leather firms, and the most prominent manufacturer of high-grade shoes here was induced to try one of the samples. This manufacturer stated that, if the sample proved satisfactory, he would be willing to place an order for 1,000 hides the first year. Other dealers were also approached, and there bid fair to be a considerable trade in the near future.

The feelings of the American importer of this leather may be imagined when the shoe manufacturer requested his presence at the factory a few days ago and showed him four pairs of shoes on the lasts, which were being made from part of one of the samples which had been desired for trial. The threads had cut through and torn the slazy leather like so much wet paper. A sample from these very shoes was submitted to this consulate and is hereby transmitted. [Sample on file in the Bureau of Manufactures.]

No amount of reasoning with this manufacturer can now convince him that the sample of which he had made trial was sent by mistake

and is not a good example of the best American product in leather. Not only in his case, but in all the other possible purchasers the effect of this test has been almost ruinous to future prospects, and the American broker who had been led to high expectations is bitterly disappointed and well-nigh discouraged. Of course he at once refunded the money paid by the manufacturer and personally has to bear the loss. It is to be forcibly pointed out to American exporters that in filling such a sample order only the very best material should be sent, for while one such poor piece in a large shipment might be excused, the effect of the single one submitted as a sample proving to be absolutely worthless must be disastrous to all future business.

The same American broker also ordered two sample full hides, which it was especially agreed were to be of the very smallest size obtainable to conform to local demand. These hides have now arrived and are in the custom-house. One measures 42 square feet and the other 52 square feet. As such large hides are not wanted at any price by local consumers the American broker finds he has paid for articles for which he can have no possible use. Reckoning up his cash paid in advance for his samples, freight, duty, loss of time, etc., not to speak of the personal annoyance, he thinks he has paid dearly for the experience. All this might have been avoided and probably a profitable trade built up had the broker's written specifications been given due attention and even a fair average grade of articles sent him.

It may be added that the effect of the foregoing is not encouraging in other lines of American products which this consulate is now actively interested in introducing into local markets.

RUSSIA.

A SHIPMENT OF AMERICAN LEATHER NOT ACCORDING TO SAMPLES.

The following report concerning the filling by an American firm of a Russian order with goods not equal to sample is furnished by Consul George Nicolas Ifft, of Warsaw:

A case has just come to my notice which should be reported, as it is calculated to retard the introduction of American goods into this market.

Some time since the traveling representative of an American leather company came to Warsaw and called at the consulate, where he was given every consideration, and, through the vice-consul, was introduced to the leading houses in that line in Warsaw. From the samples which he carried he took an order from one of these houses for a shipment of various dressed leathers to the amount of about $15,000, the goods to be delivered at Hamburg. The shipment arrived in due time and a member of the purchasing firm went to Hamburg to take charge of it. Opening the boxes before doing so, he promptly refused to receive the shipment, claiming that the goods were not according to the samples from which he had ordered. He at once notified the shippers to this effect and placed the entire shipment at their disposal, and I am informed that it has since been ordered returned.

I am not in position to say that the goods shipped were not equal to the samples from which the sale was made, but as the purchaser is an old and well-established concern here, thoroughly responsible financially as well as every other way, the fact that the shipper took

back his goods appears as a confession that they were not up to the samples.

This case has been considerably discussed in local business circles, and it has not helped the effort to introduce American goods in this market nor encouraged the Polish merchant to order direct from the United States.

DENMARK.

EXPORTS TO AND IMPORTS FROM THE UNITED STATES.

Consul-General Frank Mowrer, of Copenhagen, has compiled the following facts relating to the leather trade and industry of Denmark:

The total value of skins and hides declared exported during the last fiscal year, ended June 30, 1908, from Denmark to the United States was $614,138. The countries of origin of most of these exports are Russia and Sweden.

During recent years the number of tanneries in Denmark and the amount of their production have decreased. In 1907 some seventy tanneries, employing 520 men, prepared about 80,000 cowhides, 95,000 deer skins, 9,000 horsehides, 4,000 calfskins, and 12,000 sheepskins. The larger part of skins prepared are used for gloves, leather goods, and bookbinding. The leather from hides is sold to local boot and shoe factories, and is proportionately a small per cent of the amount required. The total importation of leather in 1906 was 2,866,500 pounds, valued at $1,366,800, of which 1,984,500 pounds, valued at $1,098,800, was for consumption in Denmark. Glazed and colored kid and calf skins are the principal imports from the United States. The trade considers American sole leather to be too heavy. However, there is undoubtedly an important market for boot and shoe leathers and for belting.

PARAGUAY.

CONDITIONS UNDER WHICH THE LEATHER INDUSTRY IS CONDUCTED.

The following information concerning the shoe and leather industry of Paraguay, and the imports of leather into that Republic, is furnished by Consul Edward J. Norton, of Asuncion:

The value of leather imported into Paraguay annually will average about $40,000 Argentine gold (Argentine gold dollar = 96.5 cents United States currency). France supplies nearly one-half of this, Argentina coming second and Germany third. The total imports from the United States, according to official figures for 1905 and 1906, were insignificant, but it is encouraging to note that the trade in American leathers is slowly but steadily increasing.

The leather supplied by Argentina is chiefly sole, but local tanneries furnish the bulk of the sole leather consumed in Paraguay. The largest tannery in the country is located at Asuncion, and there are probably a dozen small plants scattered throughout the Republic. With the exception of the tannery at Asuncion, which turns out a limited line of calf, kid, saddle, and harness leather, the tanneries in Paraguay produce sole leather exclusively.

Imported leathers consist principally of patent calf and kid, russet and black calf, black and colored kids (the favorite colors being

brown, tan, cream, and white), and russet, morocco, and white sheepskins. Some split and russet grain leather is imported for use in the manufacture of shoes for the army.

There is but one power shoe factory in Paraguay, located at Asuncion, which has a capacity of about 100 pairs per day. Shoes are made generally by hand and to measure in little shops employing from five to a dozen hands, and there are about thirty odd shops of this description in Asuncion. The shoe trade, however, is not as important as one would be inclined to consider it, for the reason that fully one-half of the inhabitants of the country, probably 300,000, go barefoot. Shoes to the value of $7,882 Argentine gold were imported in 1905.

CUSTOMS DUTIES AND LEATHER SHIPMENTS TO PARAGUAY.

The import duty on leather is 55 per cent ad valorem, and for the purpose of assessing this duty the customs value the different kinds of leather as follows per kilo (2.2 pounds) in Argentine gold: Calf, black, $2; calf, patent and russian, $3; goatskins, morocco, etc., $2.50; kid, black or colored, $4; colt, patent, etc., $2.50; sole leather, $2. Leather is weighed with all packing, coverings, etc., and rated accordingly.

Shipments for Asuncion on through bill of lading should be marked "Asuncion, transito via Montevideo or Buenos Aires," as the case may be. Shipment should be sent promptly to the forwarding agents at the point of transshipment. Bills of lading with draft attached for thirty, sixty, ninety days, or the dating allowed, are usually forwarded to either of the two banks at Asuncion, the Banco Mercantil or the Banco de la Republica.

A list of the principal importers of leather in Asuncion is herewith transmitted. [On file in the Bureau of Manufactures.] Correspondence should be in Spanish. Small samples might be of considerable value in arousing interest in American leathers. Net prices should be stated and all information given in order to avoid a long correspondence in case a prospective customer is secured.

ONTARIO FUR TRADE.

ACTIVE CANADIAN INDUSTRY—LARGE SHIPMENTS TO UNITED STATES.

Consul M. R. Sackett writes as follows from Prescott on the successful results of trapping for fur-bearing animals in that part of Ontario Province:

Notwithstanding the fact that this consular district is settled country, with no great tracts of woodland remaining of the vast unbroken forest which originally covered it, the amount of fur gathered every year in the district is considerable and, under the conditions, remarkable.

The raw fur invoiced at this consulate for shipment to the United States for the year ending June 30, 1907, was $18,609, and for the year ending June 30, 1908, $20,991. The fur skins are of muskrat, mink, otter, marten, lynx, wolf, bear, weasel (ermine), and fox. Muskrat is exported by thousands of skins; it is a cheap fur, and at present fashionable. Muskrat is the best cheap fur to be had; its durability commends it to wearers of moderate means, while its near

approach, under the dyers and furriers art, to mink, seal, and others of the more rare and costly furs, lends it great attractiveness in the trade.

The fur of greatest value is mink. Hundreds of the pelts of this little animal are sent from this section to the New York market each year. The price of a full-sized mink pelt here in the fall of 1907 was $7, but it dropped to $5 the following spring. Mink is a very durable fur, probably none more so. A lady, even in Canada, the land of fur wearing, with a full garment of prime mink, is distinguished.

Many musk-ox robes are in use about here for sleigh wraps by the more wealthy. They are rare and too costly to be common. I know of none being exported from this district to the United States. No more luxurious robe can be had than the musk ox. Its long, woolly fur, some of it measuring 14 inches long, defies the severest cold.

The Government of Canada has wisely determined upon a policy of complete protection of her remaining colonies of beaver. Their near extinction was threatened, and only a most rigid enforcement of the present wise law can prevent the entire extinction of this wonderful fur bearer.

SHEEP CASINGS IN PERSIA.

AVAILABLE SUPPLY FOR AMERICAN NEEDS—RUSSIAN RESTRICTIONS.

Consul W. F. Doty, of Tabriz, suggests that American sausage-packers may be interested to learn that they can procure sheep casings from Persia for sausage covers. He therefore gives the following trade particulars:

A monopoly exists for the exportation of these casings, the concessionnaire being a Persian who has associated with himself the leading British firm at Tabriz. The Russian Government has recently prohibited the entrance of casings into Russia shipped by the concessionnaire or his agent; the prohibition applies equally to goods in transit as well as to goods intended for Russian consumption. Russia permits, on the other hand, the entrance of casings shipped by others than the concessionnaire or his agents, but the Persian Government maintains the monopoly with the exception that a British subject associated with a Russian firm at Baku, Transcaucasia, has been able to secure permission to ship about one million "rings" of casings and is likely to receive further permission from time to time.

Owing to present conditions along the Persian-Turkish frontier, the caravan route from Tabriz to Trebizond, and the long delays on the route by caravan to the Persian Gulf ports, the concessionnaire of the monopoly and his Tabriz agent are not active at present in exporting casings, but will arange to supply orders when the caravan routes are more accessible. The Baku firm is prepared to supply large quantities of casings from Persia or from Transcaucasia. It is prepared to quote prices, including transportation to Hamburg, where I believe it has an agency, or to Batum on the Black Sea, whence the goods could be shipped by the North German Lloyd Steamship Company or other lines. [The nam of the various shipping parties referred to as well as [illegible] s [illegible]o can supply "dogs' pure," which is used in the p[illegible] i [illegible] sk[illegible] n [illegible]ove manufacture may be obtained from the Bur[illegible]

SAUSAGE CASINGS IN FRANCE.

STRICT SANITARY CONTROL OVER ANIMALS FOR SLAUGHTERING.

In compliance with requests for information concerning the sanitary supervision which is exercised in France over the entrails of animals which are to be used as casings for sausages, Consul-General Frank H. Mason writes from Paris as follows:

The laws of France, notably the statute of July 21, 1881, require that every animal, whether native or imported to this country, shall, before being slaughtered for food, be subjected to a veterinary inspection. Even cattle, hogs, and sheep which are sold by farmers to local butchers in rural districts are subject to the same invariable system of inspection before they can be slaughtered and their flesh offered for sale.

If an animal is found afflicted with a contagious disease it is seized, killed, and its entire body, hide and viscera, horns and hoofs, destroyed by fire. If the animal is found to be afflicted with a noncontagious disease it is killed and its flesh and viscera soaked with petroleum, so that they can not be used for human food. In some cases the meat of such animals is permitted to be used, under supervision and without impregnation with petroleum, for such purposes as feeding carnivorous animals in menageries. Cattle afflicted with tuberculosis are treated in this manner—no part of the carcass or viscera can be used for human food, but the hides, horns, and hoofs may be used for the usual purposes.

When any domestic animal has passed the official inspection and has been pronounced sound, so that it may be slaughtered and its flesh sold for food, the entrails may be used for sausage casings without any further inspection or certificate, and this principle is general, namely, the official inspection of the animal covers both flesh and viscera, and there is no special inspection for entrails. There can be, therefore, in France no sausage casings from noninspected animals, since no ox, cow, calf, hog, sheep, goat, or horse can be slaughtered without having undergone the prescribed inspection, and if found diseased its viscera are either impregnated with petroleum or destroyed.

In rural districts where no public furnace is available for burning the flesh and other parts of diseased animals the law prescribes that they shall be buried.

FISHERIES.

CATCHES AND MARKETS.

GERMANY.

LIVING FISH CONVEYED LONG DISTANCES FOR CONSUMPTION.

Consul Thomas H. Norton, of Chemnitz, in transmitting the following report concerning the fish industry of Saxony says the industry is highly developed and that the products of its carp ponds are greatly esteemed, even outside that Kingdom:

The problem of conveying the living fish for long distances to remote markets has assumed considerable importance. For several years past fresh-water fish have been imported in casks of water from various points to the cities, at some considerable expense. The living fish can be purchased daily in the markets of Dresden, Chemnitz, and other cities, and are naturally preferred to fish transported on ice. Living sea fish are also transported, to a less extent, in salt-water tanks. They are to be found thus far only in few of the larger cities.

The statement made in Monthly Consular and Trade Reports, in May, by Special Agent Carden, that living salt-water fish are not yet transported by rail, and that fresh-water fish can not be offered for sale in Germany except alive, was a mistake, and was evidently based upon misinformation.

The desirability of providing cheaper means of transporting Saxon carp to distant points reached by fluvial routes has led to the introduction of ingeniously devised river craft for the purpose. They consist of scows 65 feet long and 16 feet wide. The interior is divided by partitions into 30 compartments. In the bottom and sides of a scow, as well as in the inner partitions, cracks are left open, so that when floating in a river there is a continual circulation of fresh water. The buoyancy of the wood composing the craft allows the upper portion to project slightly above the surface of the water, and to sustain a small cabin for a crew. These scows are fastened together in pairs floating down the river Elbe to Hamburg, and being towed up stream to Saxony by steam tugs. Such a pair of scows conveys a cargo of 40 metric tons (44.1 short tons) of living carp at but a fraction of the expense involved in transportation by rail, as it costs but a trifle to transfer the fish from the carp ponds to the sc[illegible].

The city of Hamburg deman[illegible] very [illegible] qu[illegible]ities of [illegible]p, especially in the autumn, and th[illegible] [illegible]l of bri[illegible]ng the living fish from the remote [illegible] in-crease the demand. These craft [illegible] river during the month of Se[illegible] be utilized with advantage on [illegible] of and on the Great Lakes for conv[illegible] cities.

NORWAY.

INTERESTING STATISTICS CONCERNING THE INDUSTRY.

The following report covering the fisheries of Norway for 1906 and 1907 is furnished by Consul Felix S. S. Johnson, of Bergen:

The number and value of the Norwegian fishing fleet, sailboats, motor boats, and steamboats were as follows in 1906:

Description.	Number.	Value.
Small sailboats	2,355	$1,214,495
Large sailboats	1,398	1,945,787
Motor boats	647	1,700,996
Steamboats	176	1,836,148
Total	4,576	6,697,426

The number of persons employed in the sea fisheries in the year 1906 was about 108,000. The fish industry is growing to be very important since the introduction of motor engines and motor boats. It is now almost impossible to do without these, and the demand for them is steadily increasing. The catch is now in reality larger than formerly, but the profits are not always so satisfactory, as the expenses for a motor boat are much larger than for an ordinary fishing boat. The decked motor boat has in several ways an advantage over others, by affording the fishermen better protection in bad weather, besides greater safety.

There are three funds from which the Norwegian fishermen can secure loans for the purchase of fishing boats: The old sea-fish fund, which advances three-fourths to two-thirds the value of the boats, to be paid back in ten or fifteen years, in yearly payments, with interest at the rate of 2½ per cent per annum; the new fish fund, which advances loans to the extent of one-half the value of the boat, payable in ten yearly payments; the Finmarken fund, which loans to the extent of four-fifths the value of the boats, to be paid back in ten yearly payments at 2½ per cent interest. None of these funds require payments for the first year of the loans.

VALUE OF FISH EXPORTS.

The value of the products of the Norwegian fisheries, including the whale fishery, exported in 1906 amounted to $17,886,990. The following statement shows the value of the different kinds of fish and fish products exported during that year:

Fish and fish products.	Value.	Fish and fish products.	Value.
Preserved fish	$1,232,800	Lobster	$352,152
Fresh salmon	407,628	Cod-liver oil	1,314,272
Mackerel	368,786	Roe	355,636
Halibut	188,672	Fish guano	216,100
Herring	1,244,056	Whalebone	28,944
Cod	3,059,756	All other	1,822,422
Split cod	4,743,868		
Herring, salted	2,342,856	Total	17,886,990
Anchovies	209,042		

Preserved fish is exported in increasing quantities, and now finds sale in nearly every country; but as a large part thereof is sent in *transit*, statistics only show the countries through which it passes, not

the countries wherein it is consumed. It is therefore impossible to state the values to the countries of consumption.

Salted mackerel is exported to the following countries in the order of quantities: Holland, United States, Germany, Denmark, etc.

The export of smoked herring was to United Kingdom, Germany, Italy, Holland, and Spain.

Cod-liver oil went to Germany, Holland, United Kingdom, France, United States, etc.

Fish roe is exported to France and Spain for sardine bait.

Fish guano was exported as follows, in kilos: Germany, 4,814,350; Denmark, 685,000; Belgium, 50,800; United Kingdom, 4,600; Sweden, 200.

Salmon was sent to Great Britain, Germany, Denmark, and Holland; mackerel to Denmark, Great Britain, Sweden, and Germany; halibut to Germany, Great Britain, Denmark, Russia, Holland, and Belgium; herring to Great Britain, Germany, Denmark, Sweden, and Belgium. Other fresh fish to Sweden, Germany, Denmark, Great Britain, and Russia.

EXPORTS TO THE SEVERAL COUNTRIES.

The values of the fish exported to the several countries are not available, but the following statement shows the quantities of the principal products exported in 1907:

Countries.	Quantities.	Countries.	Quantities.
CODFISH.	*Kilos.*	SPLIT COD.	*Kilos.*
United States	348,660	United States	2,590
Italy	5,149,410	Spain	17,537,930
Germany	3,016,150	Germany	7,062,410
Holland	2,414,040	Portugal and Madeira	6,491,240
United Kingdom	2,511,040	United Kingdom	3,627,330
Sweden	1,407,120	All other countries	689,010
All other countries	1,583,230		
Total	16,429,650	Total	35,410,510

CANADA.

CLOSE OF THE SEASON IN NOVA SCOTIA—EXTENT OF THE INDUSTRY.

The fishing industry is made the subject of a brief report by Consul-General David F. Wilbur, of Halifax, under date of October 17:

With the end of September came the closing of the Grand Bank fishing from ports in Nova Scotia, and it is interesting to note the magnitude of this industry in these waters. From Lunenburg comes the report that the catch this season was much larger than that of last year. In 1907 there were 109 vessels fishing from that port, and for that season they made a catch of 123,625 quintals (1 quintal = 112 pounds), an average for each vessel of 1,134 quintals. This year there were 110 vessels fishing, and the season's catch was 138,180 quintals, an average catch of 1,256 quintals for each vessel, an increase of 132 quintals for each.

DIFFICULTY IN SECURING MEN.

Some difficulty is being experienced by Lunenburg owners in hiring men for their vessels. This is caused by fishermen sailing on fishing vessels from the ports of Boston and Gloucester, Mass., whose homes are in Nova Scotia, they claiming that better wages are paid at these

ports, and also better vessels. This condition has existed to a marked degree since the opening up of the Halifax and Southwestern Railway, that line providing a cheap means of reaching Boston.

On account of the difficulty in getting men, the number of vessels sailing from ports along the south shore of Nova Scotia has decreased in the last few years, but it is expected that the next season will see a number of new vessels fitted out and sailing from these places. The new vessels being built are from American models and are palaces compared with the vessels built a few years ago. By improving their vessels and paying higher wages the owners hope to have no trouble in getting men.

LARGE CATCH CAUSES LOW PRICES.

The large catch of all kinds of fish, both on the Grand Banks and along the Nova Scotia coast, has tended to bring the price of all fish products much lower than in former years. While some fish are being shipped from Halifax on every boat, the only foreign fish market which is at all profitable to the shippers at the present time is that at Oporto, Portugal. Shippers explain that, notwithstanding the remarkable weather in these waters and in the province the past summer, there are large quantities of poor fish on the market, and for this reason much of the fish being sold is giving more or less dissatisfaction. There are three or four cargoes of this poor grade, mostly sunburnt, heavily salted fish, which is looking for a buyer, but so far no one feels disposed to make a decent offer for it. The market is very dull with bank fish, worth but $3 per quintal, and few takers at that, buyers being disposed to wait.

At the present time the markets of Porto Rico are furnishing an outlet for a good share of the Halifax stock. While not up to the standard of shipments, the British steamer Benedick took a fairly good cargo from this port on October 13, valued at $12,400. Of this cargo a large part went to Porto Rico, the remainder, invoiced at $2,360, going to New York.

YARMOUTH.

THE DOGFISH NOW OF GREAT COMMERCIAL VALUE.

Consul Alfred J. Fleming, of Yarmouth, Nova Scotia, furnishes the following information concerning the manner of extracting oil from the dogfish and then producing fertilizer from the remains:

Fishermen about the Nova Scotia coast are complaining very severely about the prevalence of the dogfish, which is proving very destructive, as the pests not only take the bate but often destroy the trawls and scare the fish from the fishing grounds, besides destroying large quantities of them. This year the dogfish is said to be more numerous than ever before, and naturally more hurtful to the fishing industry, but movements are now under way to make the pest financially valuable. Over a year ago a dogfish reduction works was established at Canso, on the northeastern coast of Nova Scotia, and large quantities of these fish were reduced. In fact, the works became so beneficial that the plant has been largely increased, and has become quite remunerative to the operators as well as to the fishermen. This year a plant was established at Clarks Harbor, about 35 miles from Yarmouth. There is also a third at Shipegan, in New Brunswick. The Clarks Harbor plant is larger and said to be better and more modern than either of the other two. The building is 138 by 40 feet,

and has a very substantial machinery equipment. A splendid wharf has been built leading out to the deep water to facilitate loading.

EXTRACTING OIL AND MAKING FERTILIZER.

The fish are dumped from the vessels into cars and taken to the "cooker," which is a long iron cylinder boiler-like affair. Steam is forced into this cylinder from both ends and the fish thoroughly cooked, when they are taken by elevator to the press where the oil is extracted. From the press the oil flows into tanks arranged with steam pipes at the bottom and supplied with water. The oil floating in the first tank is drained off through a conduit to the next tank, and so on to the fifth and last, when it is perfectly clear, drawn off into casks, and is ready for the market. Up to the present time New York has taken all the output of this factory, and also all from the Canso works, the average price being 32 cents per gallon.

After the oil is drained off, the remains of the fish fall into a screw conveyor and are taken to the dryer, to which dry heat is supplied from a large brick furnace, a steam driver forcing the hot air into the dryer, after which the fertilizer is conveyed by a screw conveyor to the packing room, where it is put in bags, for sale to the farmers of the country.

ENLARGED OUTLOOK FOR THE INDUSTRY.

With the exception of the 40-horsepower engine, which was built in Nova Scotia, all the machinery came from New York. The Canso works are planned for day and night operation, and reduce about 25 tons of fish in 24 hours. The Clarks Harbor plant will, it is said, reduce 30 tons of fish in 10 hours, employing from 10 to 12 men. These are Dominion Government plants.

Not only will dogfish be utilized and reduced to useful fish oil and fertilizer, but all kinds of fish offal will be made use of and reduced to a commercial value. Much that is now useless to the fishermen and thrown away will find ready sale at some price, and will be a considerable item of the fishermen's profits.

It is not expected that the local fishermen can supply material enough for full operation of the works, but small vessels will be employed and gathering stations established along the coast for the purpose of gathering the dog and other noneatable fish and fish remains. At least two steamers will begin this work of gathering at once.

Fishermen are greatly pleased with the new industry, as it will make a market for thousands of pounds of fish otherwise and heretofore useless. These dogfish have been caught in the past in large quantities and, after being killed, thrown overboard, but now they may become valuable and in a way will prove of large commercial importance.

AUSTRALIA.

NEW FACTORY FOR TASMANIA TO UTILIZE SEA ANIMALS.

Consul Henry D. Baker, of Hobart, calls attention to the plans in the Australian state of Tasmania for enriching the soil with fertilizer made from fish:

An interesting feature of the big apple orchards in the vicinity of Hobart is the use of dead sharks and barracouta for manuring the

soil and increasing the yield of apples. Sharks and barracouta are in great abundance in the D'Entrecasteaux Channel, Storm Bay, and other waters about southeastern Tasmania, and are caught especially for their use as fertilizers for the orchards, about three sharks or ten barracouta being used for a single tree. As the fish are exceptionally rich in nitrates and phosphates, they are considered an ideal fertilizer. The odor, however, is extremely offensive, and this has caused some regulations against its use in orchards adjacent to towns or along much-frequented roads. Also there is a difficulty in transporting the dead fish to orchards far from the seacoast. The desirability of using this fish manure in some easily transported form and free of offensive odor has caused recent experiments in making dried-fish manure and also extracting fish oil as a by-product. A recent analysis of this manure by the Tasmanian government agricultural expert is as follows: Nitrogen, 9 per cent; ammonia, 10.93 per cent; phosphoric acid, 5.77 per cent; phosphate of lime, 12.59 per cent.

As nitrogen is the most valuable and expensive ingredient in manure, it is expected that manures of a high quality can be obtained by mixing this fish manure, 9 per cent of which is nitrogen, with other suitable ingredients, like phosphates of lime, superphosphates of lime, and potash. With these ingredients manures suitable to the requirements of any soil can be obtained. During the last season about 14 tons of this dried-fish manure was made and sold to orchardists, and the experiment was so successful that now a plant is to be built on North West Bay, near Hobart, with capacity for 40 tons of raw fish per day. There is said to be an inexhaustible supply of fish in the vicinity. It is understood that the machinery for the plant will be purchased in the United States. The manure will be manufactured in the form of well-ground powder, which will give an odor less than that of bone dust. The oil will be extracted and sold as a by-product for lubricating purposes and for spraying. There will doubtless be a good market for fish oil, as in 1907 Tasmania imported 3,132 gallons of fish oil.

BRITISH INDIA.

REGULATING THE PRICES OF PEARLS.

Consul-General William H. Michael, of Calcutta, reports that a scheme has been set on foot to regulate the Indian pearl market and to prevent a repetition of the disastrous experience of last year, on account of the money crisis in the United States. An agency is to be formed in India with several branches, and a head office at Bombay, to collect pearls and to dispatch them to the London market at a fixed price, but subject to offers. Against these parcels a small advance will be given in Bombay, while the price is being cabled for to London. The promoters of the scheme say that there is a great future in store for the Indian pearl industry if it can be properly handled. The syndicate intends to extend its operations to the Australian fisheries.

ALCOHOLIC GOODS.

BEER TRADE.

ITALY.

INCREASING CONSUMPTION OF IMPORTED AND HOME BEERS.

The following statistics concerning the consumption of foreign and home produced beers in Italy is furnished by Consul Albert H. Michelson, of Turin:

The attention of American brewers is drawn to the very small amount of American beer imported annually into Italy and to the opportunities which the Italian market offers as a field for the enlargement of the trade.

Within the last few years the consumption of beer in Italy has undergone a most marked increase, an increase the more remarkable because it has been wholly uninfluenced by the country's production and consumption of wine. In years when wine has been cheap the ratio of increase in the consumption of beer has not lessened, nor in years when wine has been dear has it increased. This fact would seem to be of considerable importance, for it shows that the drinking of beer is becoming more and more firmly established among the customs of the country.

BEER IMPORTS.

The increased imports of beer into Italy in 1906, as compared with 1901, amounted to 1,116,672 gallons—in 1901, 1,486,881 gallons in casks and 101,653 gallons in bottles; in 1906, 2,535,899 gallons in casks and 169,307 gallons in bottles.

The following statement shows the imports of beer into Italy from the several countries in 1905, the latest year for which official statistics are available:

Country.	In casks.	In bottles.	Total.
United States	.....	$3,086	$3,086
Austria-Hungary	$380,552	22,844	403,396
Germany	224,405	24,036	248,441
Switzerland	108,667	.....	108,667
Belgium	290	2,145	2,435
United Kingdom	224	1,756	1,980
All other countries	.....	796	796
Total	714,138	54,663	768,801

The average price of imported beer in casks was 32 cents per gallon and of beer in bottles $12.50 per 100 bottles.

The exports of beer from Italy in 1906 amounted to only 89,791 gallons, all of which was practically furnished to passenger vessels touching at Italian ports.

BEER PRODUCTION.

The production of beer in Italy has increased at a rate still greater than the imports. In 1906 there were 101 breweries in the Kingdom, which produced 9,508,033 gallons of beer—three times the quantity

produced in 1896. Beer brewed in Italy is taxed at the rate of 1.20 lire (23.16 cents), less 12 per cent per degree of sugar per hectoliter (26.417 gallons). Beers having less than 10 or more than 16 degrees of sugar are taxed as having 10 or 16 degrees, respectively. The maximum and minimum tax on production is therefore 16.90 lire ($3.26) and 10.56 lire ($2.04) per hectoliter.

Adding the net imports of beer to that produced in Italy gives the consumption of beer in the kingdom in 1906 as 12,123,448 gallons, against 5,865,102 gallons in 1901.

GERMANY.

EXPERIMENTING ON THE PROPER COLOR FOR CONTAINING BOTTLES.

In furnishing the following report, Consul Thomas H. Norton, of Chemnitz, says that at present much popular interest is taken in the experiments now being made as to the proper color for beer bottles:

It has been conclusively shown that the taste and odor of beer are equally sensitive to the action of the direct rays of the sun, and even to diffused daylight. Careful experiment has shown that the constituents of beer which undergo so readily a change on exposure to light are products of fermentation, and are not present as such in the original wort. Dark beer is found also to be much more sensitive to light than light-colored beer.

A German authority on brewing has now shown by an exhaustive series of experiments that no form of colored glass when used for beer bottles affords absolute protection against the effects of exposure to sunlight, and that a wide diversity in degree of protection is observed when glass of different tints is employed. The highest measure of protection is yielded by dark, reddish-brown glass. The ordinary bottle green of champagne bottles affords much less resistance, and still less is given if the glass is bluish green.

As tests have shown that the changes in the properties of beer are due to the action of the so-called actinic, or chemical rays of solar light, it occurred to this authority to devise a method of determining by ocular evidence the quality of a glass intended for use in bottling beer. For this purpose he uses a dilute solution of ferric ammonium citrate, potassium ferrocyanid, and oxalic acid, such as is employed for making blueprints. This liquid when freshly prepared has a faint yellowish color, but within five minutes after exposure to direct sunlight it changes to an intense blue. When introduced into bottles of different hues the formation of the blue on exposure to sunlight is prevented or retarded, according to the color of the glass.

Repeated experiments have shown that while the chromatic changes in the test liquid take place much more rapidly than the alterations in taste and odor of beer under corresponding circumstances, still the retardation in both cases is proportional. Thus a glass bottle which reduced by 50 per cent the action of the actinic rays on the sensitive solution, as compared with a colorless bottle, would likewise involve double the time of exposure for bringing about a given amount of deterioration in the properties of the beer, if filled with that liquid.

This simple, objective test enables the bottler of beer to discriminate easily and rapidly between the different grades of colored-glass containers which are offered for sale.

BRITISH INDIA.

ESTABLISHMENT OF THE FIRST BREWERY IN CALCUTTA.

The following information concerning the establishment of a brewery in Calcutta, and its anticipated effect on beer imports, is furnished by Consul-General William H. Michael, of that metropolis of India:

Calcutta has a brewery about ready to place its product on the market. This is the first venture of the kind in this city. It will use filtered Hooghly River water and will make several brands of beer. The brand called " Pilsener " will retail at $1.16 per dozen, which is a big reduction on former prices of imported " Pilsener " beer.

The capacity of the brewery is from 10,000 to 15,000 gallons per month. The materials used are malt and Kentish hops. The beers to be produced are stout, ale, Pilsener, and Munich. The process used is one specially adapted to hot countries, the fermentation being performed by means of a special type of barm that works at very high temperatures compared with ordinary yeasts. This greatly facilitates the production of beers in a tropical climate, as it does away with the necessity of using a high-power refrigerating machine, that would be necessary if ordinary German or English yeast were employed. It is found necessary to artificially cook the beer only just before it is racked into cask or bottled, instead of keeping it cold during the whole period of fermentation, which, with lager beers brewed on the German system, comprises a period of six to ten weeks. The brewing machinery is all of the latest type and the whole brewery is built on the most modern principles. The ice machine used for finishing the beers is only of 3-ton capacity, but it is claimed that, starting with a temperature of 85°, it is possible to reduce the temperature of the refrigerating medium 12° below freezing point within four hours.

If this brewery accomplishes all it sets out to do it will revolutionize the beer trade of India and leave little demand for foreign-made beers.

ALCOHOL IN GERMANY.

MATERIALS USED, PRODUCTION, AND DISTILLING PROCESSES.

In answer to inquiries, Consul-General A. M. Thackara, of Berlin, furnishes the following report on the production of alcohol in Germany:

In Germany alcohol is produced from almost all materials containing carbohydrates, such as potatoes, fruits, including cherries, plums, and other stone fruits, kernel fruits, berries, grapes, currants, raisins, wine, wine lees, fruit and wine cake, rye, barley, wheat, corn, dari or sorghum, etc., but the greater portion is manufactured from potatoes.

During the campaign year just passed the quantities of the principal materials used in the production of spirits were, in metric tons of 2,204.6 pounds, as follows: Potatoes, 2,727,493; barley, 172,201; rye, 103,352; corn and dari, 104,347; other grain, 23,772. Gallons: Cherries, 12,684; plums, 64,368; other stone and kernel fruits, 43,116; berries, 2,927; wine lees, 949,112; wine and fruit cake, 272,207; grape skins, 6,757,190.

As there were 2,727,493 to of p (100,218,204 bushels, of 60 pounds each) consumed in es, from which

78,445,157 gallons of alcohol were produced, or 77.3 per cent of the total output—101,473,345 gallons—the following figures concerning the production of potatoes in Germany are interesting:

The potato in Germany has been brought to a high state of perfection by an elaborate scheme of scientific fertilizing and cultivation, organized by the bureau of agriculture, and by continued experiments from year to year, until the whole system of planting, cultivating, and harvesting has been reduced to exact practical methods.

The total area and production of potato culture in this country during the past fifteen years were as follows:

Year.	Acreage.	Yield.	Yield per acre.
		Metric tons.	*Bushels.*
1896	7,543,578	32,329,046	.....
1901	8,200,979	48,687,261	218¼
1907	8,148,224	45,538,299	205¼

Of the 1907 crop 42,618,982 tons of potatoes were sound, while 2,919,317 tons, or 6.4 per cent, were diseased or unsound.

EXCISE LAWS OF GERMANY.

The excise laws and regulations governing the manufacture of alcohol in Germany are elaborate and somewhat difficult to interpret. According to the manner in which the quantity of alcohol subject to tax is measured, the distilleries are divided into two classes:

(1) Verschlussbrennereien are those which are operated always under strict supervision of the excise officials, and the alcohol produced accurately measured and gaged by means of apparatus provided for by law.

(2) Abfindungsbrennereien, distilleries in which the spirit produced is usually estimated at the commencement of the campaign year, according to the declared measurements of the mash tub, or to the declared capacity of the still, or to the estimated amount of material to be used during the year. In distilleries producing over 132 gallons per annum, the amount of material is officially controlled. In this class are included the small farmers who, by the simplest apparatus, distill the products of their farms. After the estimated excise tax is paid, the alcohol may be consumed or sold without further official control.

By the provisions of the excise laws, distilleries are also divided into three classes, according to the material used in the manufacture of alcohol. In general terms the distinctive features of the three divisions are as follows:

(1) Agricultural distilleries (landwirtschaftliche Brennereien) are those which during the entire year use exclusively grain or potatoes grown principally on the owners' farms or on the farm of one or more of the owners, if the distillery belongs to a cooperative society or company of farmers. In all cases the material purchased from other parties must not exceed one-tenth of the total amount used. In addition all the by-products of the agricultural distilleries must be used as fodder for feeding the cattle or as manure for improving the land of the owner or owners.

(2) Material distilleries (materialbrennereien) are those which during the entire year use nonfarinaceous materials, with the exception of molasses, beet root, and beet-root juice, such as berries, fruits, wine lees, grape pressings, etc.

(3) Industrial distilleries (gewerbliche Brennereien) are those which do not come under the classification of either agricultural distilleries or material distilleries—in other words, those which use during the campaign year partly grain,

partly potatoes, or partly raw materials mentioned under the head of material distilleries, or partly other farinaceous materials than grain or potatoes or a mixture of farinaceous and nonfarinaceous materials, or those which use beet root.

At the close of the campaign year 1906–7 there were 89,601 distilleries in Germany, of which 5,640 were Verschlussbrennereien, or those operating under the strict supervision of the excise officials, the remainder, 83,960, were Abfindungsbrennereien, or those which paid the taxes upon the estimated amount of alcohol produced.

MATERIALS USED AND PRODUCTION.

Of the above-mentioned distilleries only 65,405 were in operation during the year 1906–7.

In the following statement are indicated the class of distillery, the number of distilleries of each class, the principal materials used, and the amount of alcohol produced in 1906–7.

Character.	Number.	Principal material used.	Alcohol production.
			Gallons.
Agricultural	5,871	Potatoes	78,179,270
Do	7,966	Grain	8,129,106
Industrial	21	Potatoes	265,887
Do	752	Grain	11,754,239
Do	29	Molasses	2,354,736
Do	42	Various	3,328
Material	142	Grape wine	126,616
Do	266	Brewery wastes	39,784
Do	50,316	Other material	620,379
Total	65,405		101,473,345

Included in the foregoing were 59,862 "Abfindungs" distilleries, with a production of 2,657,370 gallons, and 673 yeast distilleries, which produced 12,534,968 gallons of alcohol.

The following were the percentages manufactured from the several materials: Potatoes, 77.3; grain, 7.2; grain yeast, 12.4; molasses, 2.3. The quantity of pure spirits, in the shape of alcohol, brandy, etc., produced by the small farmers from the distillation of the products of their lands was only 0.8 per cent, or 790,081 gallons, of the total production, almost a negligible quantity when the total of alcohol produced is considered. Among the 59,862 "Abfindungs" distilleries which were in operation last year there were 49,665 which produced less than 13 gallons each during the whole campaign, 3,957 with a production of from 13 gallons to 26 gallons, and 2,216 with a production of from 26 to 53 gallons. The largest quantity produced by this class of distillery during the period in question was from 13,208 to 15,850 gallons in three different distilleries.

In middle, eastern, and northern Germany the agricultural distilleries are mostly fitted up with modern apparatus, which will produce daily on an average from 72 to 238 gallons of alcohol of from 90° to 92° Tralles, from potatoes or grain. The size of the plant depends upon the extent of the owner's land on which the raw materials are raised. Many of the distilleries are owned by the farmers themselves and worked on their own account, but there are also combinations of smaller farmers, called Genossenschaften, which are formed for the purpose of erecting a distillery and operating it in mutual interest, using as raw materials the potatoes and grain produced by their members. Few of the farmers' distilleries have rectifying plants, the

crude alcohol being usually sold to dealers for rectifying purposes or for denaturization, to be used for fuel or in the industrial arts. During the last campaign year there were 398 of the cooperative agricultural distilleries in Germany, the production of which was 8,336,401 gallons of alcohol.

In southern Germany, Baden, Wurttemberg, and Alsace-Lorraine are to be found a large number of the small farmers mentioned who, with extremely simple apparatus, distill alcohol from their berries and fruits and from the residue from the manufacture of wine and cider. Usually the best of the fruit is more profitably sold in the market, but when the crops are large, the prices low, and profitable sales limited, as was the case this year with plums and several other fruits, these farmers not being able to handle large quantities in their own stills, send their products to the larger distilleries. This was recently done by the Fruit Growers' Association of Ellwangen. The society collected the fruit from its members, had it distilled into alcohol, and divided the proceeds from the sale of the spirits pro rata, thus making the large plum crop to some extent profitable.

HOME MADE AND AMBULANT EQUIPMENTS.

In Wurttemburg and the other wine districts, under ordinary conditions, the fruit is either sold or made into wine or cider, the residue from the operations being distilled into alcohol. The apparatus of these small farmers is generally most primitive, often manufactured by the nearest coppersmith. It usually consists of an iron or copper mash kettle, capable of holding from 5 to 13 gallons, under which is the fireplace; from the kettle a pipe leads to a copper worm, mounted in a barrel, through which the water for condensing the vapor runs. The alcohol produced ranges from 40 to 50 degrees Tralles and is almost entirely used for drinking purposes.

There are also ambulant distillers, principally in Baden, Wurttemburg, and Alsace-Lorraine, who go from farm to farm and work up the materials of the farmers. The average price for the rent of their apparatus is 4 marks (95 cents) per day, the renter furnishing the fuel and oil. If there is an assistant, the rate is $1.66, besides board and lodging. During the last campaign year there were 103 of the ambulant distillers in Germany.

For the benefit of those who have asked this consulate-general for information regarding the cost of an average distillery, such as is used in this country, an estimate is forwarded of a complete distilling and rectifying plant which can produce daily in two mashings 53 gallons of alcohol of from 90° to 92° Tralles, or 47 gallons of rectified spirits of from 95° to 96° Tralles.

[The gallon used throughout the foregoing report refers to the American gallon of 231 cubic inches of pure spirits. Estimated cost of distilling and rectifying plant, catalogues of German manufacturers thereof, and addresses of publishers of books on the manufacture of alcohol, are on file in the Bureau of Manufactures.]

INDUSTRY AND LABOR.

CONSTRUCTION OF WATERWORKS.

CHINA.

OPENING OF NEW SYSTEM MEANS HEALTHFULNESS AND PROGRESS.

Vice-Consul-General Willard B. Hull reports that with the inauguration of the system of waterworks intended for the service of the bulk of the population of Canton, the capital of South China has made a step forward in its municipal progress the importance of which can scarcely be overrated. He describes the installation as follows:

Although the service will necessarily be of a limited character at the outset, the fact that the people of Canton may now abandon their immemorial custom of obtaining their water supply from the Pearl River is a marked illustration of the influence exerted by advanced ideas on the shrewd and progressive Cantonese. None can tell to what extent the use of water drawn from the river has contributed to the prevalence of disease in Canton and the recurrence of epidemics, but it is certain that the practice was a perpetual source of danger to the inhabitants of the city. Where a river the size of the Pearl is utilized both as a means of drainage and source of water supply to a city the size of Canton it is beyond doubt a menace to the health of the residents.

The Canton waterworks consist of three settling reservoirs of a capacity of 6,000,000 gallons each, six sand filters with a filtering capacity of 1,250,000 gallons each per day, and a covered storage reservoir of 2,000,000 gallons capacity. The pumping machinery consists of four sets of centrifugal pumps each capable of pumping 2,500,000 gallons per day. These pumps are for pumping water from the river to the reservoirs, and from reservoirs to filters. The main pumping plant for pumping into the water tower consists of three pairs of direct-acting triple-expansion engines, each pair being capable of pumping 2,225,000 gallons in twenty-four hours.

The water tower is situated in the center of the city and suburbs, a distance of 2¼ miles from the pumping station; the tower is 115 feet in height to the base of tank, the latter having a capacity of 180,000 gallons, and is fitted with separate inlet and outlet pipes with connection between the two pipes, and an automatic electrical water-level indicator. The works have been under construction for the past two years, and are practically completed with the exception of about one-third of the piping. The aggregate length of piping when finished will be nearly 60 miles. The company is already in receipt of over 10,000 applications from householders for water supply.

KOREA.

FIRST SUPPLY PLANT, COMPLETED BY AN AMERICAN COMPANY.

Consul-General Thomas Sammons, of Seoul, furnishes the following report concerning the completion of the waterworks in that city and the proposed building of similar works in other Korean cities:

The problem of providing Korean cities with pure water is receiving the serious attention of the Japanese Protectorate. Under such protectorate the Korean Government will in the near future complete public waterworks at Chemulpo, the chief seaport of the Empire, and at Pingyang, the chief commercial mart aside from Seoul. At Fusan the new water-supply plant is owned jointly by the Government and private individuals.

The first water-supply plant to be completed in Korea, however, was chartered and built by Americans, at a cost of $1,250,000. The materials and supplies used, with the exception of the cement and miscellaneous supplies, were purchased through American firms. This plant has been accepted by a British syndicate and is now in working operation in Seoul.

Active construction work was begun in September, 1906, and the completed works were turned over to the Korean Waterworks (Limited) on July 23, 1908, six weeks before the contract date of completion.

THE SEOUL WATERWORKS.

The plant is on the bank of the Han River, from which the water is drawn, and is protected from floods, which occasionally cover the banks, by an earth levee 10 feet in height. The station buildings are of brick, with granite trimmings. They are lighted by a General Electric 6-kilowatt dynamo direct, connected to a vertical Omen engine of 8 horsepower. The steam is supplied from a battery of boilers with superheaters, with which economizers are used. The chimney is of brick, 5 feet in internal diameter and 103 feet high.

The water is pumped from the Han River to the settling reservoirs by Worthington 12-inch centrifugal pumps in duplicate, directly connected to 36 horsepower vertical compound condensing engines. The capacity is 4,000,000 imperial gallons per twenty-four hours. After filtration the water is raised to the service reservoir by two Worthington direct-acting triple-expansion pumping engines; capacity, 3,750,000 imperial gallons per twenty-four hours. The power house is arranged for the installation of more machinery as occasion requires, so that the plant may be doubled in capacity if desired.

Each of the two settling reservoirs is 158 feet square with a water depth of 8 feet. From them the water flows by gravity to the filters, five in number, each with 900 square yards of filtering surface. There is ample room for the extension of these filters. After filtration, the water flows to the clear water basin, from which it is pumped to the service reservoir. This is located on a spur of Namsan Mountain, outside the city wall. It is 120 feet in diameter and 22 feet in depth. All these reservoirs, or basins, are of concrete—one part of cement to two and one-half of sand and five of broken stone. They were plastered inside with mortar (one part of cement to two of sand, the cement receiving 1 per cent of alum and the water 1 per cent of soap).

This made them almost water-tight. The filters and clear water basin are roofed with reenforced concrete, covered with 15 inches of earth to prevent freezing. The cement used was Japanese, manufactured and tested under the Japanese Government specifications.

The main pipe line is of steel. For the purpose of saving freight, it was brought out nested in three sizes, 19⅜, 21$\frac{15}{16}$, and 22⅝ inches in diameter. This pipe is all lap welded and laid with lead joints. With the exception of about a mile of 16-inch steel, the distribution pipe is of cast iron, varying from 3 to 12 inches in internal diameter. There is a total of 5 miles of steel pipe and 30 miles of cast-iron pipe in the system.

There were provided for, under the contract, 216 fire hydrants and 630 service hydrants for street use, but some of the service hydrants have been held in reserve until experience indicates where they are most desired. Water is to be sold from these service hydrants to the poorer people, through the water carriers' guild, but others will have private service in their houses.

PALESTINE.

ANCIENT WELLS GIVING WAY TO MODERN ENGINES AND OUTFITS.

In forwarding a report describing the machinery in use at Jaffa to raise water from the wells for irrigating purposes, Consul Thomas R. Wallace, of Jerusalem, gives a short description of the system employed for irrigation in general use for gardens and orchards at that place. The report referring to the device used should be of interest to American manufacturers, as Mr. Wallace says that large numbers of the engines and pumps have been sold and a constant demand for new ones is created by owners of orchards just starting in Palestine. The consul writes:

Upon a recent visit to the city of Jaffa, situated on the plain of Sharon, between the mountains of Palestine and the Mediterranean Sea, I was much interested in the system of irrigation practiced by the gardeners and fruit growers in the vicinity of this old city. As I find there is a large and growing demand for pumping devices to raise the water to the surface, and the American manufacturer has heretofore neglected this field, the province of this article will be to describe the system in use for the purpose of bringing before the public the character of machinery in demand, that they may determine the desirability of entering this field for a part of its trade.

PLENTY OF WATER AT VARYING DEPTHS.

It has been discovered that underlying the surface of the plain of Sharon, at various depths ranging from 18 to 80 feet, there is an inexhaustible supply of good water for all purposes. For ages this knowledge has been utilized by the inhabitants, and various devices have been employed to bring the water to the surface in sufficient quantities to serve the immediate needs of the users. Some of the devices are of the same character as were used ages ago, but these fill the needs of those who require but a small supply of water. As the fruit industry increased in importance new machinery and improvements have been added by the more enterprising grower, so the de-

mand to-day is for more powerful machines, better adapted to the new requirements, and a pumping system will meet with ready sale that will give good results under the conditions to be met, will work economically, and will not require skilled workmen to operate it.

The general plan adopted by all in starting a fruit farm or garden, and the most important of the items connected with it, is the construction of a well, as upon the success of this enterprise all else depends. The land upon which the wells are dug is hard and firm in

Primitive method of raising water for irrigation in Palestine, known as a Noria.

some localities, while it is loose or sandy in others. Where the land is hard the well is curbed with stone a short distance at the top and at the bottom. Where it is loose and sandy a solid curbing of stone 2 feet thick is built from the top to the bottom. The depth of these wells is from 18 to 80 feet, and from 10 to 42 feet in diameter.

The oldest of the methods employed for raising water on the plain, in which mechanical devices are used, is called by the natives a "Noria." As this name gives a wrong impression, it may be stated

that the device is the same as employed in Egypt for ages, and is called there a "Sakieh." It has toothed wheels of wood to rotate a shaft or cylinder over which is passed an endless chain of buckets, and having mechanism for operation by draft animals. At a later date iron cogwheels were used. I send herewith a photograph of the device called in this district a "Noria," and which represents one of the most primitive in use.

This device gives about 5 cubic meters (cubic meter=35.314 cubic feet) of water per hour, but larger buckets are also used with the metallic wheels, operated by oil motors of from 3 to 5 horsepower, which raise from 16 to 24 cubic meters per hour.

VERTICAL AND CENTRIFUGAL PUMPS.

Vertical pumps of 2 or 3 cylinders (force pumps), operated by oil motors or suction gas motors of from 7 to 15 horsepower, will raise from 25 to 60 cubic meters per hour.

Where the conditions are favorable centrifugal pumps are employed and are preferred. The one observed at Jaffa would raise 50 cubic meters per hour, and was said to be the most economical of the many different pumps in use. It is found that where the soil is loose or sandy suction pumps can not be used, as the foundation or curbing of the well is soon undermined by the action of the pump, and the sides cave in, and the well is destroyed.

To obviate this difficulty the present plan is to dig the well as formerly, and when the first strata of water is reached a few meters more are dug, and from the center of the well a boring is made for the insertion of a drive point, and is continued down through the second strata and well into the third strata of water. The tubing is commenced some distance above the bottom of the well at about the normal level the water reaches in the ordinary conditions of its supply.

These drive wells in some cases overflow and give an abundance of water, but most generally a pump is required, and sometimes they are complete failures.

BRITISH ENGINE PRICES.

The gas suction engines used here are new to me, and are said to be the most economical of all the methods used for power. They are automatic and require little care. The prices for these engines, f. o. b. at some English seaport, are as follows:

One 30-horsepower horizontal gas suction engine, with gas suction plant complete, including all piping for gas and water, 2 fly wheels, all accessories, pulleys, and spare parts, 6 piston rings, all necessary spanners, foundation bolts for engine, etc., for $1,065. The same engines of lesser horsepower, but complete, as the foregoing—15-horsepower, $800; 12-horsepower, $675; and 8-horsepower, $580.

The prices for the various devices in use to raise the water, employed in the different systems other than the one quoted, are as follows: Noria or Sakieh complete in wood, for draft animals, $140; same in metal, for engines, $200; small buckets with fittings for well 14 meters deep, $75; large buckets run by engine with fittings for well 14 meters deep, $90; pumps of 30 meters per hour, with tubes and gearing, $280; same of 60 meters, $560; oil engines of 5 horsepower, $460; gas suction engine of 12 horsepower with gas plant complete, $1,000.

The foregoing prices are approximate, and for mounted devices ready for work. Fifty per cent of the oil and suction engines come

from one firm in England, 45 per cent from one firm in Germany, and 5 per cent from other firms, mostly from England. The two local firms handling about all of the business have workshops and foundries in Jaffa, and keep repairs on hand. This gives confidence to the buyer, and purchases are made because repairs can be procured without delay.

The greatest need in securing a part of the business in this, as well as all other articles of goods manufactured in the United States, is to have national lines of seagoing vessels calling at the different ports of the Orient, to enable American exporters to trade as freely as competitors.

CANADA.

THE TARIFF FAVORS THE IMPORT OF BRITISH PIPING.

In answer to inquiries, Consul Gebhard Willrich, of St. John, New Brunswick, furnishes the following information concerning the construction of the waterworks in that city, and what American manufacturers in that line should do to get their full share of the trade:

The water and sewerage department of this city has construction work now in progress for a larger and more effective water supply, which will require additional water-supply pipes. Much has been done to improve the water supply by enlarging and improving the whole system. The old wooden pipes have to a great extent been removed and replaced by supply pipes imported from England. The superintendent informs me that American manufacturers have not been able to compete with the English manufacturers of these goods because of the duty imposed on the American articles, such duty being $8 per ton on cast-iron pipe of every description, and 30 per cent ad valorem on iron or steel pipe or tubing, riveted, corrugated or otherwise specially manufactured, including lock joint pipe, n. o. p., and 30 per cent ad valorem on iron or steel fittings for iron or steel pipe of every description. This duty is imposed under the general tariff which governs American goods, while British manufacturers of this class come in under the preferential tariff, which is from 25 to 33⅓ per cent less.

Inasmuch, however, as there has been a good deal of trouble with the material used, and it seems the desire of the city authorities to secure the best material obtainable in future construction work, it would be advisable for American manufacturers to enter into correspondence with the director of the department, giving him full information about the goods and prices at which they can be delivered here, so that he may be thoroughly posted as to their character and quality. [Address on file in the Bureau of Manufactures.]

THE CITY SPENDS LITTLE AND GROWS SLOWLY.

It may be of interest for American manufacturers to know that the city of St. John, during last year, spent about $50,000 on construction of new mains, and about the same amount for material and labor, in the maintenance of its water system.

St. John is not a large city, and its population has been practically stationary for a generation past. Thus little building is going on and public improvements are not extensive, but there was an imperative need for improving its waterworks system, which had become so inadequate that there was danger of a repetition of the great conflagration which practically wiped out the city in 1877. Thus the work was undertaken section by section and is still going on, and it must be some time before the city will be in possession of a modern, up-to-date waterworks system.

I send some statistics taken from the fifty-second annual report of the water and sewerage department of the city [on file in the Bureau of Manufactures] in the belief that it may give a better general idea of conditions here, which it may be of advantage for American manufacturers to be familiar with, to better enable them to form an intelligent idea of the needs of this city for their goods. The addresses of two of the leading hardware supply houses in the city, whose trade covers the maritime provinces, are given [on file in the Bureau of Manufactures]. It might be well for manufacturers to write to these firms with a view of introducing their goods in this district.

NEW INVENTIONS.

GERMANY.

ADDITIONAL FACTS ABOUT THE GERMAN SUBSTITUTE FOR CELLULOID.

Numerous inquiries have been received by Consul Thomas H. Norton at Chemnitz for further details in regard to cellit, the newly invented substitute for celluloid, and more especially in connection with the use for cinematographic films mentioned in his first report in Monthly Consular and Trade Reports for September. The consul, therefore, supplies the following supplementary information:

The following data have been supplied by the inventor, who has confided the manufacture to a firm at Elberfeld, Prussia. [The names of the inventor and the manufacturer may be obtained from the Bureau of Manufactures.]

Cellit is the trade name for a form of acetyl-cellulose. It is possible to prepare a variety of these acetyl derivatives of cellulose or acetates, with varying properties, exactly as in the case of the analogous nitrates of cellulose—gun cotton, pyroxylin, collodion, etc. The acetates first obtained during recent years yielded in combination with camphor more or less brittle substances. Their only satisfactory solvents were chloroform and acetylene-tetrachlorid. The narcotic action of the first solvent and the poisonous nature of the latter rendered their use most objectionable. These disadvantages, in addition to the brittleness, effectually prevented any practical use of the earlier forms of acetyl-cellulose for use in the cinematograph, although numerous experiments in this direction were carried on for a long period.

VALUABLE PROPERTIES.

The newly discovered modification, in its camphor derivative termed cellit, possesses fortunately the desired properties, missing in

its homologues. It is the reverse of brittle, resembling leather, and it is readily soluble in the comparatively cheap mixture of alcohol and acetic ether (ethyl acetate).

With these two all-important properties to start with, much study and experiments were required before a cellit was secured meeting all the many demands made upon cinematographic films. Celluloid (the combination of camphor and gun cotton) is characterized by its hardness, springiness, and tenacity. A multitude of difficulties in this connection were gradually overcome, until cellit films were finally prepared, free from liability to tear or stretch or crumple. In the cinematographic apparatus there is now no scratching of the surface, no tearing, no distortion on the part of cellit films when swiftly passed through the mechanism.

The various other technical difficulties in connection with the application and fixation of the sensitive emulsion, the securing of uniform transparency, etc., have all been successfully met, so that the new films are scarcely to be distinguished from celluloid preparations so far as luster, tenacity, evenness, transparency, etc., are concerned.

NONINFLAMMABILITY OF NEW MATERIAL.

In one respect, however, there is the most striking and important difference, and that is inflammability. When celluloid is brought near a source of heat it instantly takes fire, burning with a large, crackling flame, which spreads so rapidly that all possibility of extinction is practically precluded. On the contrary, when a burning match is applied to a cellit film, it does not take fire at once, but only after an interval. Then a slow combustion, accompanied by a small flame, begins, and is gradually propagated through the mass, very much as in the case of a sheet of india rubber. A cellit film behaves often as a stick of sealing wax. It tends to melt, and while the molten substance falls down in drops the flame is often extinguished.

While cellit films in contact with a flame exhibit such a measure of slow combustibility, they are entirely incombustible in the cinematographic apparatus. Even when exposed to the concentrated rays of the most powerful arc lamp, there is no sign of combustion. When the exposure is prolonged changes become evident in the film; the layer of emulsion is loosened, blisters appear, there is a general shrinkage, and finally fusion begins along the lines of the photographic picture. The action ceases with this result, even if the exposure be maintained for an hour.

The behavior of a celluloid film under such conditions is all too well known. It is impossible to adjust it in the apparatus without full protection from the source of light. If exposed for a second it begins to smoke, and within four seconds, at the utmost, it bursts into flame.

This unfortunate property has rendered the cinematograph such a source of danger, when, through any accidental interruption of the rapid movement of the celluloid films before the powerful sources of light, or even through the tearing of a film, instantaneous combustion ensues.

OTHER ATTEMPTS TO REPLACE CELLULOID.

Preventive measures designed to lessen the danger have been taken in various countries by the police authorities and are of the most manifold variety. There are requirements for the inclosure of the apparatus in a fireproof cell during an exhibition, for its operation in a room covered with asbestos, outside of an exhibition hall, for the use of asbestos clothing by the operators, for the entire absence of flame-giving lights, etc.

Numerous attempts have been made to replace celluloid as a material for films. Gelatin has been tried in a multitude of forms. Its lack of strength and its tendency to swell up in developing baths have prevented any practical application for the purpose. Even when inclosed between exceedingly thin sheets of celluloid it fails to withstand the effects of the bath. Other albuminous bodies lack in plasticity and transparency.

Attempts to replace camphor in the manufacture of celluloid by less combustible organic substances or by noncombustible mineral bodies have totally failed to yield a material adapted for use as films.

It is to be hoped that after the very exhaustive tests to which cellit films have been submitted by German manufacturers of cinematographic appliances, the problem has finally been solved in a manner which will remove all elements of danger from this popular and instructive form of exhibition.

UNITED KINGDOM.

A SPHERICAL APPARATUS CLEANED BY A ROTARY PROCESS.

Consul Maxwell Blake, of Dunfermline, furnishes the following information concerning a new mechanical filter for the cleansing of filtering beds in the purification of water, which is being adopted in Scotland:

The discoveries of bacteriology have long emphasized the hygienic importance of uncontaminated water for purposes of domestic consumption, and with the increase in population and the growth of manufacturing open water beds have become so liable to pollution from effluents, waste products, emulsified oils, and other collective impurities, that softening processes and mechanical filtration have now become necessary for the various requirements of industrial activity.

Bleachers and dyers, textile factories, paper makers, and manufacturers generally, who rely upon feed water for boiler supply, evince an increasing interest in the subject of mechanical filtration, as is indicated by the large number of automatic filters at present on the market.

Hitherto the principal difficulty experienced with mechanical or rapid filters has been the more or less imperfect methods of cleansing the filtering bed. Various washing arrangements have been devised for this purpose, such as the injection from the bottom of streams of cleansing water at high pressure, and revolving arms and rakes. None of these, however, is said to have given complete satisfaction, as that part of the filter bed beneath the nozzles (introduced to conduct the reverse flow of water) is frequently undisturbed, and often the rakes and arms do not effectively remove all coagulated masses adhering to the sides of the filter lying between their operating paths.

It is claimed that these objections have now been overcome by the new turnover pattern of filter, one of which has been installed in a local linen factory. This filter is spherical in construction, and, as its name implies, is cleansed by a rotating process, during which the filtering bed of fine indestructible quartz is completely reversed with each revolution of the filter. The scouring action, accompanying the shifting of the quartz, is claimed to be a distinct merit, as it is said to effectively remove all adhering matter from the inside of the filtering receptacle, at the same time throwing to the surface a new portion of the filtering body.

Other concomitant advantages of the turnover system are said to be: The expense of erecting elevated reservoir tanks to supply cleansing water under pressure is avoided; low-priced centrifugal pumps operating at low heads can be substituted in conjunction with the turnover filter for more expensive machines; the filtering chamber can be examined at will without removing the filtering material by a simple revolution of the chamber; large types of filters, with a capacity up to 30,000 gallons per hour, clean as easily as the smaller types. All the operating gear is outside the filter, and is visible. These filters are generally constructed of cast iron in preference to steel plates.

The simple turnover filters are used for filtering out ordinary suspended matter without any chemical treatment; they are also used as roughing filters for town water supplies. In cases where the bacteria in raw water number about 1,000 per cubic centimeter, they have been reduced to 20 per cubic centimeter by means of a coagulent and filtration—thus obtaining a reduction of bacteria of over 99 per cent with treatment and filtration, and of 75 per cent without the use of the coagulent. Special chemical-treating plants in conjunction with the turnover filter are also supplied. [A photograpd of the filter in section and a descriptive booklet are on file in the Bureau of Manufactures.]

PETROL-AIR GAS INVENTED BY A BRITISH CITIZEN.

Consul Joseph G. Stephens, writing from Plymouth, says that it is claimed by two different parties, one of whom resides in that English district and whose invention he has examined, that from 50 to 75 per cent can be saved on gas bills by the use of a new petrol-air gas.

The gas is made by the carburetting of air with a small proportion of petrol vapor, the resultant mixture being highly illuminating, nonexplosive, without smell, and without injurious effects if inhaled. Applied to special burners it burns with great power and gives off sufficient heat to be serviceable for either cooking or heating purposes as well as for lighting.

This gas costs just under one shilling (24 cents) a thousand cubic feet to produce. A 125 candlepower burner when in use costs one-tenth of a penny (one-fifth of a cent) an hour and will light a large room. For the cost of one penny (2 cents) enough gas can be supplied for eight hours to a radiator capable of heating an ordinary room.

The mechanism which makes the gas is small, compact, and simple to work. A producing plant capable of supplying twenty-five lights can be made for about £20 ($100).

SWEDEN'S IRON INDUSTRY.

STABILITY OF TRADE—AVERAGE WAGES AND COST OF LIVING.

Special Agent H. W. Davis, while investigating conditions of the flour trade in Sweden, made inquiries in regard to the iron industry of that country, and furnishes the following report:

Much of Sweden's wealth lies in her wonderful iron-ore deposits and in the extensive establishments engaged in producing almost every form of iron and finished steel. This industry has been less affected than almost any other thus far by the severe financial conditions that in Sweden, as in most other European countries, have prevailed for the past eleven months. Possibly the seemingly constant demand of naval and army requirements throughout Europe, the presence of low-cost raw material and cheap labor, and the employment of water power now largely utilized, may account for this favorable position of the trade. But I am led to believe that the stability has been well maintained as the result of a wise financial policy on the part of banking interests which, while curbing and controlling speculative and inflated conditions prevailing a year ago, have enabled legitimate enterprises to go on, thereby avoiding cancellation of orders and the withholding of shipping instructions and consequent prostration of industry that might otherwise have followed.

RAPID DEVELOPMENT—RESULTS OF INFLATION.

It is only in recent years that the possibilities in iron-ore production began to be fully realized in Sweden. Discoveries only a few years ago of vast bodies of magnetic ore well to the north, running 60 to 70 per cent iron, roughly estimated in one particular section alone to the amount of 500,000,000 tons above ground, brought about the construction of a state line of railroad connecting the region of deposit with the works already established. With the increased facilities, both for mining and transportation, came increased capacity in furnaces and iron mills, the formation of new corporations for various forms of manufacturing, and the natural growth of villages and cities under the stimulating influence of the prosperous period that continued in nearly all branches of trade until the reaction of a year ago. The force of this reaction was severely felt. There had been too much inflation. Speculation had taken hold of the people. Profits had been large in many lines. Stocks of corporations with par value of $275 per share sold as high as $1,700 in the summer of 1907. The same shares can be bought at present under $800 where the earning capacity is well founded and said to justify much higher valuation. The shrinkage in even the best stocks was rapid and so severe that many failures followed. One bank alone is thought to have suffered losses to the extent of over $7,000,000, and yet there was no panic in the sense generally understood. The banks cooperated sufficiently to hold speculation in check and finally to stop it altogether. There were no bank runs. Possibly the government system of monthly inspection was of material value in calming excitement and restoring or maintaining confidence. The normal interest rate of 4 per cent on bills and 5 per cent on loans advanced to 7 and 8 per cent. A great deal of quiet liquidation followed. Since last March the conditions have been slowly improving and the money rate, upon the cessation of borrow-

ing, dropped to 5½ per cent on rediscounts and 6½ per cent on loans, which are about the rates current at present.

LABOR CONDITIONS AND WAGES.

The labor conditions generally have been such as to bring discontent to many that had previously been apparently satisfied. Socialism has found many new adherents and is making rapid growth. In the iron industry, while 60 per cent of the employees are thought to be organized, it is not believed that with this class of laborers the socialistic idea prevails, as work has not been curtailed to the extent it has in some other occupations. The following statement of wages paid was furnished by one of the larger concerns in Sweden, but located at a point remote from a large city. The scale is therefore less by 20 to 25 per cent than where similar labor is employed in cities with much higher rents and living expenses.

Blast furnaces.—Foremen, $486 per year; furnace men, twelve hours per day, $5.83 per week; helpers, twelve hours, $5.50 per week; topmen, eight hours, $5.30 per week.

Charcoal and roasting furnaces.—Some working three shifts of eight hours each, others two shifts of twelve hours each, the pay ranging from $4.70 to $5.30 per week.

Martin furnaces.—Pay is by the ton, amounting, on the average, to the following wage per year: Foremen, $540; melters, $486 to $513; helpers, $350 to $378; ladlemen, $350 to $378; flaskmen, $300 to $330; stokers, $324; watchmen, $300; cranemen, $324; other helpers, $300. Work is in night and day shifts, twelve hours each, the week ending at 3 or 4 o'clock Saturday afternoons. Furnaces are charged from 6 to 12 o'clock Sundays for the ensuing night shift. Sunday labor is paid for time and a half.

Bessemer converters.—Foremen, $513 per year; furnace men, 89 cents per day; helpers, 76 cents; flaskmen, 76 cents; ladlemen, 89 cents; cranemen, 92 cents. This daily wage is for twelve hours' labor, the shifts being two to cover the night and day work, but there is an additional allowance depending on the tonnage gotten out, which averages about 65 cents per man per day.

Rolling mills.—Foremen, $10.80; heaters, $9.45; and rollers, $8.64 per week.

Pipe and tube mills.—Foremen, $10.80; heaters, $9.45, and helpers, $7.83; rollers, $8.64; sawmen, $6.76; greasers and electric engineers, $6.75; plug boys, at about 20 years of age, $5.80; boys of 16 years, $4.18; boys 14 to 16 years, $2.70; day laborers in mill, $5.26; all the foregoing per week. Inspectors, per year, $365.

General laborers.—Machinists, $7.70 per week; firemen, eighty hours per week, $6.35; stationary engineers, seventy-five hours per week, $5.60; bricklayers, $6.48; house carpenters, $5.26; ordinary day laborers, fifty-nine hours per week, $4.86.

It is customary in rolling mills to divide the workmen into two crews, working three turns of eight hours each, No. 1 crew or gang going on at 6 a. m. and working until 1 p. m.; No. 2 gang working from 1 to 9 p. m., when No. 1 again goes on from 9 p. m. to 6 a. m., followed in turn by No. 2, and so on. Thus the shifts are constantly changing their stated hours from day to day. Intermissions for lunch are at 8.30 to 9 a. m., at 5 to 5.30 p. m., and at night from 1 to 2 a. m.

Day laborers ordinarily work fifty-nine hours per week. In the plant visited, and which appears to be fairly representative of the conditions in most of the larger iron mills, the number of working days in recent years averaged 295 actual employment per year.

It should be stated that at the above plant free rooms and houses are supplied the working people. These apartments are clean and comfortable, though small, but in many cases have attached small garden patches. They are reckoned as being worth in rent value that would otherwise have to be paid out, from $16 to $32, and as high as $67 per year, according to size and condition. A family may occupy one room only for all purposes—cooking, eating, and sleeping—or two rooms in case of larger family requirements, but rarely three rooms.

THE COMBINATION METHOD.

The foregoing figures as to wages have to be arrived at by taking the fixed wage and adding to it the premium earned by the tonnage or similar scale given in addition to the regular wage, but included in the foregoing figures. For instance, in the iron-ore briquette plant, making briquettes of 10 pounds each, installed for the purpose of utilizing fine ore and dust and thus avoiding explosion in furnaces, the regular scale ranges from 40 to 65 cents per day, but is augmented in the case of each employee according to the number of carriages of briquettes produced daily, so the lowest priced man averages a total wage of about 70 cents, while others total from 80 to 95 cents up to $1.08 per day.

The result of this combination method of fixed and premium payments for labor is that while in no case the pay is excessive, the incentive exists among the men for getting out the largest quantity, all of which is under careful inspection, and yet the actual cost per ton of output, all charges considered, is reduced as the output is increased.

STANDARD OF LIVING.

Payment of wages is made every two weeks. Generally speaking, while from 40 to 60 per cent of the iron workers are organized, the mills and furnaces are on what is termed the "open-shop" basis. Most of the larger works are not located in large commercial centers, and thus excessive rents and taxes that prevail in the cities are avoided. This is an important feature when it is known that in some cities rents are as high as $100 per year per room, while all incomes above $162 per year are taxed from 8 to 15 per cent for state and local purposes, varying somewhat in respect to amount of local taxes according to the population and improvements in the community.

Since most forms of food cost more in Sweden than in the United States, particularly the high-class breadstuffs and meats, it follows that at the low wages prevailing the standard of living is comparatively low. Coarse ground rye and graham are principally used for bread. Bacon is largely used, but meat is not usually served more than once a day on the workingman's table. Clothing costs less than in the United States; particularly is this noticeable in the better class of men's clothing, but goods consisting largely of cotton or rough goods of the cheaper variety usually worn about shops and factories cost only slightly less than in America.

POWER PRODUCTION.

GERMANY.

CENTRAL MUNICIPAL STATIONS SUPPLY MANY SMALL INDUSTRIES.

In reporting that Nuremberg, in common with by far the larger number of German cities, operates its own street railway lines and its electric light and gas plants, Consul H. W. Harris shows to what extent in recent years it has undertaken to furnish power to small manufacturing or other concerns requiring but little power:

At the close of 1907 the number of motors thus operated by the city was 885, an increase of 120 during the calendar year. The number of such motors now exceeds 1,000, practically all of which are inside the city limits. These motors are for the most part small, furnishing at the close of 1907 a total of 2,369 horsepower, or an average of 2.6 horsepower per motor. Thus there were of these motors of 1 horsepower or less, 395; 1 to 3 horsepower, 281; 3 to 5 horsepower, 95; 5 to 8 horsepower, 66; 9 or 10 horsepower, 28; 12 to 24 horsepower, 16; 48 to 50 horsepower, 4.

These motors are employed in a great variety of concerns, including small factories and workshops, bakeries, printing offices, hop presses, butcher shops, woodworking establishments, feed cutters, and for operating ventilators, elevators, etc. Thus 268 horsepower was supplied to 112 small factories and workshops; 167 horsepower was furnished to butcher shops, 62 horsepower to bakers or confectioners, 144 horsepower to cabinetmakers or other woodworkers.

The motors in use are partly of Nuremberg manufacture and partly from other German factories. So far as can be ascertained but few, if any, are imported from other countries.

CHARGES FOR POWER—FUEL—ELECTRIC POWER IN AGRICULTURE.

The city charges 20 pfennigs (4.76 cents) per hour per horsepower for smaller motors and 18 pfennigs (4.28 cents) per hour per horsepower for large motors. The user pays for connections with street wires and for the use of meter, the charges, which seem relatively high, depending on the amount of power used and other conditions.

The city reports that the fuel used in 1907 was chiefly fine coke from the city gas works and a mixture in about equal parts of anthracite nut coal and caking nut coal (German Fettkohlen). The cost of the coke at the boiler houses was 8.2 marks ($1.95) per metric ton of 2,204.6 pounds, that of anthracite nut 20.7 marks ($4.93) per ton, and of the caking nut coal 24.4 marks ($5.81) per ton. The increased use of coke under the boilers during the year was found to be a saving in the cost of fuel.

Considerable effort has been made in Germany to introduce electric power for use by farmers in thrashing, operating creameries, cutting feed, pumping water, sawing wood, etc. The fact that German farmers generally live in the villages has doubtless tended to make the experiment successful beyond what it would be where farmers live upon the lands they till. A series of articles which recently appeared in a journal devoted to agricultural machinery in Germany summarizes the advantages of this class of power for farm purposes as compared with that furnished by wind-motors, steam, gasoline, or alcohol engines, etc. The usual methods of generating and

distributing electric power for farm purposes are also given. The cost of this class of power is said to vary considerably in different parts of Germany, the usual charge being from 20 pfennigs (4.76 cents) to 30 pfennigs (7.14 cents) per kilowatt hour. In the articles referred to it is stated that the Street Railway Company of Hanover, Germany, a private corporation, has in recent years furnished a considerably increasing amount of power to farmers. In 1900 the total horsepower so furnished was 440, in 1903 it was 4,752, in 1905, 7,557, and in 1907 it formed a total of 11,723 horsepower.

CHEAP POWER GAS.

DETAILS OF GERMAN ORE-BRIQUETTING AND COAL-ECONOMY INVENTIONS.

Consular Agent John B. Brewer, of Weisbaden, has prepared the following collective answer to technical questions from the United States with regard to his recent consular report, referring especially to the new German methods of briquetting iron ores and of producing a tar-free power gas from bituminous coal:

The cost of briquetting, or better, of "nodulizing," according to the Dellwik-Fleischer process, if there are no gases from the blast furnace available, is about $1 a ton, at a moderately high price for coke. If gases from the blast furnace are available, the cost will be only one-half.

In order to concentrate magnetic iron ore of from 35 to 40 per cent pure iron to from 50 to 60 per cent metallic ore, the magnetic process is made use of in the United States to decided advantage. By this method, however, no iron in lumps is obtained, but only fine granular magnetic ore. This fine-grained ore is of high percentage. Consequently it is rather wasteful to mingle said pure material with the lump ore of inferior quality, because thus either it is lost as blast dust, through the wind pressure in the high furnace, or on account of its dust-like form its quality deteriorates through the coke by its eager assimilation of sulphur, silicium, phosphorus, etc.

VALUABLE LUMPS WITHOUT ADMIXTURES.

It is much more economical first to transform this precious, small-grained material into porous and durable lumps, without any damaging admixtures.

This so-called nodulizing without admixtures is effected in the best manner imaginable by the Dellwik-Fleischer process. The ore powder is thereby transformed into a solid, porous mass of lumps, whose purity leaves nothing to be desired. I have personally seen and examined specimens so treated.

Even all the sulphur that may be contained in the one is completely removed, so the inventors claim, a result not attained by any other briquetting methods. It appears that through their process a remarkably pure and useful furnace material is obtained.

According to the inventors' patent, the power gas is produced in a particular generator. As I understand, gas engines of from 200 to 300 horsepower have been operated therewith. The gas is so free from tar that a white cloth held in it shows no sign of blackening nor any tar spots.

In establishing a new plant, only generators of at least 100 horsepower should be considered, to make them remunerative. With these,

of course, various gas engines of smaller type may be operated simultaneously. There seems to be no difficulty in building generators of more than 1,000 horsepower efficiency.

HOW TAR-FREE POWER GAS IS MADE.

All previous efforts in the direction of producing power gas made from bituminous coal failed. This new method would have been a failure if it had been based on the same principle of the decomposition of tar through heat, which never succeeds sufficiently. In the new process the tar gases are not thus decomposed but are completely burned within their generator, and the products of this combustion, in passing through the coke formed, are transmuted into a tar-free power gas.

The advantages of a coal power gas are so great that many endeavors have for a long time been made to solve the problem. Evidently as long as bituminous coal comes into question, there is no cheaper and more economical nor better way of producing power than by converting the coal direct into power gas. In order to do that it needs, as calculated by the inventors, scarcely one pound of coal to produce one "hour horsepower," or about one-half of the coal consumed by a steam engine or a steam turbine to reach the same effect. Thus the future of all power plants, if not too small, lies with the coal power gas.

Navigation interests especially will try to find means and ways to greatly reduce its bulky and voluminous coal consumption by introducing such power gas from coal.

From an economical point of view even electricity may be able to compete only in a moderate way with power gas from coal, providing coal can be had at not too exorbitant a price.

Moreover, even the apparently costless gases from the blast furnace seem to yield their popularity, as a power gas, to the coal power gas. The reason for this is their even varying chemical composition to which coal power gas is not subjected.

It is owing to this constant variation which exercises such a bad effect on those powerful gas engines that the metallurgists and mill owners are looking about for a more even and reliable power gas generator. I imagine that coal power gas will play a very important part also in American iron and steel industries in the near future.

SHIPBUILDING.

JAPAN.

DAILY WAGES OF LABORERS IN SHIPYARDS.

Consul George H. Scidmore, in a report from Nagasaki on the Japanese mercantile marine, states that the following schedule covers the daily wages of laborers for ten hours' work in shipyards in that country:

Boiler makers	$0.98	Foundry men	$1 02	Punchers	$0.46
Blacksmiths	1.23	Finishers	1.00	Rivet makers	.80
Calkers	.49	Lathe workers	.99	Sailmakers	.55
Coppersmiths	.96	Machinists	.51	Screw makers	.47
Carpenters, ship	.90	Molders	.87	Ships' iron workers	1.32
penters, house	.42	Painters	.75		
tricians	.57	Pipe makers	.99		

UNITED KINGDOM.

REPORT FROM THE CLYDE SHOWS RENEWED SCOTCH ACTIVITY.

Consul J. N. McCunn, of Glasgow, in the following report reviews the British shipbuilding industry with special reference to the Clyde district:

During September, the Clyde received shipbuilding contracts amounting to about 120,000 tons. This is more than surprising considering the exceptionally large number of vessels lying idle in various ports in the United Kingdom for want of employment. As a matter of fact, however, nearly one-half of the new contracts placed were for foreign owners.

Some owners here are of the opinion that the anticipated revival of trade in general will create a demand for new vessels in addition to the available tonnage now laid up. Others, again, are credited with taking the view that it will be more profitable to have new and modern boats when trade opens up than to depend on the older and more obsolete craft in competing for a share of the carrying trade. It is generally conceded, however, that the present is the best time for building, as prices are at rock bottom and must necessarily rise; therefore it will be good business to invest money in new tonnage now.

The contracts, in most cases, have been booked at low prices, but are nevertheless welcome as they will help to diminish the volume of unemployed in the lower reaches of the Clyde, where most of the contracts have been placed. Whether the revival will continue and extend to all the yards on the Clyde can not yet be said with any degree of confidence.

The September record of vessels launched is remarkably poor in contrast to the tonnage placed. The total for the whole of Scotland was but 31 vessels, of 21,971 tons. Of these, 27 of 21,201 tons were built in Clyde yards.

For the nine months ended September 30, 1908, the Clyde output was 213 vessels, of 245,102 tons, a decrease of 56 vessels and 213,249 tons compared with the corresponding nine months of the previous year. In the matter of tonnage, 1908 is about four months behind 1907, which gives a very clear picture of the depressed state in which the industry has been for some time.

CONSTRUCTION WORK THROUGHOUT THE KINGDOM.

According to Lloyd's Register returns for the quarter ending September 30, 1908, there were under construction in the United Kingdom, excluding war ships, 319 vessels of 733,378 tons, as compared with 450 vessels, of 1,080,087 tons, at the close of September, 1907. The tonnage is about 347,000 tons less than that building twelve months ago and nearly 66,000 tons less than that which was on hand at the end of the previous quarter and is said to be the lowest total recorded since 1896.

Of the vessels building in the United Kingdom, 176 were for home account, 30 for British colonies, 12 each for Brazil and France, 7 each for Belgium and Argentina, 6 each for Norway and Sweden, 5 for Spain, 4 each for Denmark and Egypt, 3 each for Germany and Greece, 2 for Peru, and 1 each for Austria-Hungary, Holland, Italy, and Japan, while 38 were for other nationalities or for sale. None were over 20,000 tons, 1 was between 15,000 and 20,000 tons, 8 between 12,000 and 15,000 tons, 4 between 10,000 and 12,000 tons,

and 3 between 8,000 and 10,000 tons. Of warships, 12 of 112,820 tons are building at royal dockyards and 54 of 138,318 tons at private yards. The Clyde war ships are 1 British destroyer and 2 torpedo boats at Dumbarton and 9 destroyers and 1 gunboat at Scotstoun.

GERMAN MACHINERY EXPORTS.

SALES ABROAD ARE WELL SUSTAINED THIS YEAR.

According to official statistics from Berlin the German exports of machinery somewhat increased during the first seven months of 1908 as compared with 1907. The German Export Review presents the following statistics (referring to double hundredweights) and comments:

	1907.	1908.		1907.	1908.
Locomotives	169,920	271,599	Machines for textile industry	359,444	354,186
Steam engines	208,323	288,506	Machines for wood manufacturing	51,214	56,752
Agricultural machines	106,418	119,149	Machines for preparation of food	140,988	151,284
Mining machinery	75,873	71,034			
Machines for iron industry	252,892	283,215			

The competition of the United States and England being very sharp, German manufacturers have probably made lower prices in order to enable them to meet such competition, so it is doubtful whether the profit occurring was in proportion to the quantity of shipments. Labor is to be had for almost all branches of industry; in the machinery branch 307 persons applied for 100 vacancies. A strange feature of the labor market is the fact that many metal workers are seeking employment for machine work. At present the supply of labor exceeds the demand in all branches of manufacture. Machinery imports have fallen off 7.7 per cent within twelve months. The export of locomotives has increased 60 per cent, of steam engines 40 per cent, and of agricultural machinery 13 per cent, as compared with the same period in 1907.

CHEMICAL INDUSTRY OF GERMANY.

CONTINUED FAVORABLE OPERATIONS OF A REMUNERATIVE TRADE.

Consul Thomas H. Norton makes the report from Chemnitz that at the recent annual session of the German Society for the Protection of the Interests of the Chemical Industry the reports made by the different branches showed that, with the exception of the manufacture of white lead and of other lead pigments, no serious effects had thus far resulted from the general business depression. The consul states that the report of the secretary gave the following outline of the growth of the industry during the year 1907:

The number of factories increased from 8,505 at the beginning of the year to 8,618 at its close. The number of operatives increased from 195,000 to 207,000. Their wages advanced at the same time from $49,266,000 to $54,740,000.

The joint stock undertakings, numbering 166, reported at the close of 1907 a total stock capital of $125,806,800, reserves of $41,316,800, and outstanding debts amounting to $22,514,800. They paid in dividends the sum of $19,444,600 on the entire capital. This is an increase of 0.38 per cent on the rate for 1906. The profits vary greatly in the different branches. Of the 166 joint stock companies some 44 declared dividends ranging from 5 per cent to nothing. The average rate of profit during 1907 for the entire in-

dustry was 10.73 per cent, an advance of 0.7 per cent over the rate for 1906. The fluctuations in the average rate of profits in the chemical industry for the past eight years are shown by the following table, in which, for purposes of comparison, the rate of 1899, a year of exceptional prosperity, is placed at 100:

Year.	Rate.	Year.	Rate.	Year.	Rate.
1899	100	1902	87.8	1905	104.9
1900	91.2	1903	93.3	1906	111.5
1901	90.9	1904	98.7	1907	114.3

The outlook for a continuance of high profits is not considered as favorable, partly on account of recent tariff arrangements and partly on account of the requirements of the new British patent law.

The customs statistics of the German Empire for the first half of 1908 give a most satisfactory showing for the commerce in chemicals. In comparison with the same period of 1907, there is a slight lessening of imports and a more marked increase in exports. The following are the figures showing the German commerce in chemical products, colors, and pharmaceutical preparations for the first six months of the respective years, in metric tons of 2,205 pounds:

Preparations.	Exports.		Imports.	
	1907.	1908.	1907.	1908.
Acids, alkalies, salts, etc	841,430.9	867,057.5	547,438.2	532,894.3
Colors and pigments	89,849.2	81,055.8	31,892.6	31,415.3
Varnishes, cements	1,789.8	1,914.7	1,568.2	1,191.5
Alcohol, ether, essential oils, aromatic compounds, cosmetics, perfumery, etc	4,624.9	4,312.3	17,118.5	18,647.5
Artificial fertilizers	185,439.7	198,477.1	182,045.6	186,336.5
Explosives, matches	7,368.1	5,431.4	710.9	492.5
Other chemical and pharmaceutical preparations	12,873.3	12,465.5	19,648.8	21,798.5
Total	1,143,375.9	1,170,714.3	800,422.8	792,776.1

BELGIAN ELECTRICAL INDUSTRY.

INCREASE OF THE KINGDOM'S LIGHT AND POWER PLANTS.

In reply to inquiries, Consul-General Ethelbert Watts furnishes the following information concerning the electrical concerns in the Brussels district:

There are several underground tramway lines in Brussels, worked by two different companies, which employ their own staffs for the laying of the lines. Work for laying the underground telephone lines is done on the contract system. Underground lines are gradually replacing the suspended lines. A concession for electrical tramways has just been granted in Namur. Electric light and power plants are extending in the Brussels consular district. Projects are made to build plants in Anderlecht, Etterbeek, Auvelais, Montaigu, etc. There are 39 plants in [illegible]lgium manufacturing electrical machinery, supplies, etc., in which [illegible]out 5,900 workmen are employed. [A list of the plants in [illegible] co[illegible] of Brus[illegible]ls is on file in the Bureau of M[illegible] i[illegible] concentrating plants, the com[illegible] and [illegible]ailways,

companies working electrical tramways and railways in foreign countries and established in Belgium, dealers and manufacturers of electrical cables, contractors engaged in the complete installation of electric plants, railways, etc., companies working underground electrical tramwav lines in the city of Brussels.]

INLAID LINOLEUM MAKING.

PATENT PROCESSES AND MATERIALS EMPLOYED IN SCOTLAND.

Consul J. N. McCunn, of Glasgow, makes the following supplementary report on the subject of the manufacture of linoleum in Scotland in response to American inquiries:

Linseed oil is the only kind used in linoleum manufacture. The oil is first oxidized and then boiled and mixed with gum until it has attained the consistency of something like soft india rubber. It is afterwards put into a mixer along with ground cork, and the materials are pounded or mixed together, the process being practically dry mixing. In the ordinary linoleum the groundwork is laid on under steam pressure. The material, composed of a mixture of oil and cork, is squeezed onto the canvas foundation between steam rollers, the process lasting but a few seconds. The colors forming the pattern are afterwards laid onto the fabric by machinery.

In coloring the pigments are as follows: For a brown foundation, ocher, a natural earth, is used. It is obtained chiefly from America. For a crimson base, red oxide is used. It is procured largely from the Bristol district, England. For a green base, the pigment is largely lead, obtained from color manufacturers in this country, and the blue-ground material is similar and obtained from the same source. The hydraulic pressure is confined to the inlaid species of linoleum, in which the color goes through the fabric.

TEXTILES.

COTTON GOODS TRADE.

CHINA.

A MOVEMENT FOR THE PROTECTION OF THE NATIVE INDUSTRY.

The following information concerning an order recently issued by the Imperial Board of Agriculture, Industries, and Commerce, to the effect that the army, police, and schools must henceforth wear uniforms of Chinese material, is furnished by Consul-General Edward T. Williams, of Tientsin:

One of the latest developments in the policy encouraging native industries is an order issued by the Imperial Board of Agriculture, Industries, and Commerce to all provincial authorities, requiring them to see that henceforth no material but Chinese is used for the manufacture of the uniforms worn by the army, the police, and the schools. Military drill is universal in the schools; therefore every schoolboy and every student in the colleges and universities must have a uniform. The number of such pupils and students in China is not very large at present, but the new school system is being extended rapidly. There are about 130,000 male students of all grades in this province; the remainder of China may perhaps furnish 500,000 more, who are subject to the new school regulations. The new army contains perhaps 200,000 men, and the national police force about the same number. These are but estimates in the absence of available statistics. The market thus reserved to Chinese cotton goods can not, therefore, be considered unimportant.

This movement originated with the president of the Haimen Chamber of Commerce. Haimen is the capital of a subprefecture of the same name, lying on the north bank of the Yangtze Kiang, just at the mouth of the river. This subprefecture and the adjoining independent department, T'ungchou, are noted for their fertile soil and dense population. One of the principal industries is the manufacture of a heavy and rather coarse cotton cloth of narrow width, which is woven on the old-fashioned hand looms from cotton grown in the district. The cotton is probably the best grown in China. Mr. Liu, the president of the Haimen Chamber of Commerce, says that it is second in quality to the Sea Island cotton of the United States; that the yarn made from it is as good as that imported from India, and declares that formerly 100,000 pieces of these goods were shipped every year to Manchuria.

NATIVE COTTON MANUFACTURES.

Mr. Liu, on behalf of the Haimen Chamber of Commerce, submitted a petition to the Imperial Board of Agriculture, Industries, and

Commerce, received by the latter on May 3, asking that, in the interest of the cotton growers, cotton spinners, and cotton weavers of Haimen and T'ungchou, orders might be issued prohibiting the use of any but native goods for the clothing of the army, the police, and the students of the Empire. He stated that the large imports of foreign cotton goods and of foreign cotton yarns in recent years had greatly injured the native cotton goods trade of Haimen and T'ungchou. His petition was granted, and the orders were issued, and some effort seems to be made to execute them. So far as this Province is concerned, the viceroy has transmitted the orders of the board to all his subordinates concerned, and the provincial superintendent of education says that he is taking steps to enforce the new regulation in the schools under his control. He states, however, that it has been the custom in this province to make the school uniforms of native goods, but of goods produced by power looms. But not all such goods, however, are made of Chinese yarn. The large spinning mills, built for the most part by foreigners, at Shanghai and elsewhere, are turning out considerable quantities of yarn made from Chinese cotton, but this yarn does not begin to supply the demand, nor can it under present conditions compete successfully with Japanese and Indian yarns. The Chinese yarn is said, however, to be whiter than, and, in so far, superior to Indian yarn.

It is worthy of note that a great number of small factories for the manufacture of cotton goods have been established in this province within the past three years, all owned entirely by Chinese. Larger mills have been established, most of them since 1895, at Shanghai, Ningpo, Soochow, and Wuchang, some seventeen in all, nine of which are owned by foreign companies, the remainder being financed, in part, by Chinese government funds. Some of these large mills are engaged in spinning yarn, others in spinning and weaving; but to supply the demand of the weaving mills and factories for yarn, large quantities of yarn are imported every year, chiefly from Great Britain, Japan, and India, the imports in 1907 amounting to 2,273,419 piculs (1 picul = 133⅓ pounds), valued at $44,819,672 gold.

EFFECT OF THE MOVEMENT.

As a part of the same general scheme to encourage the native cotton industry, it is reported here that orders have just been issued to the viceroy at Nanking to appropriate funds for the enlargement of the government mills at Shanghai. Tientsin, too, is awakening to the importance of this industry. Prominent officials here are arranging to organize a joint stock company and establish a cotton spinning and weaving mill. Two representatives of the provincial government were sent abroad last week to investigate foreign methods of cotton manufacture, as well as to inquire into other industries. They have gone, via Siberia, to Europe, where they will visit various countries, after which they propose to go to the United States. After their return it is hoped the company may be able to inaugurate its enterprise with a capital of 5,000,000 taels ($3,950,000).

Formerly it was difficult for Chinese to undertake such large schemes, inasmuch as their laws made no provision for the control of

joint-stock companies, but since the new code of regulations, adopted in 1904, made it possible to incorporate such companies under the protection of the law, an increasing number of Chinese every year are availing themselves of the opportunities thus afforded for combinations of capital. A similar movement is reported from Szechuen, in western China, where shares are being sold for the establishment of a cotton mill at Lochih, in a region which produces large quantities of cotton.

It is not anticipated that the movement will very seriously injure American trade in the near future, but it is in line with the general desire to restrict the use of foreign capital, recover concessions made to foreign syndicates, and develop Chinese resources with Chinese capital. The time may come when China, possessed of the most modern machinery and abundantly supplied with cheap labor, may make it impossible for foreign goods to compete in this market, but for the present, all that need be feared is that the demand for the cheaper grades of goods may be lessened. It must not be forgotten, however, that China has grown cotton and manufactured cotton cloth for more than nine hundred years, and that to-day in spite of the large imports of foreign cotton goods, the masses of the people are still clothed by the native hand-looms. Foreign cottons reach but a small proportion of the population, that is, the wealthier classes, and if these classes should be turned to the use entirely of native goods, our trade would necessarily suffer.

Cotton is grown in nearly all the provinces of China, and woven by the people in their homes. But the cotton is not of good quality; it is very short staple. It will be necessary first of all to improve the Chinese cotton plant, and its method of cultivation, before China can hope to produce the finer kinds of goods.

BRAZIL.

MARKED INCREASE IN FACTORIES—TEXTILE MILLS MOST PROSPEROUS.

While there has been a very marked and a successful development of industries in Brazil in the past few years, as compared with former conditions, Consul-General George E. Anderson writes from Rio de Janeiro that development has been somewhat one sided, and has not gone as far as has been expected in some lines. He discusses the situation as follows:

Figures recently published by the Diario Oficial, or Government gazette, indicate that substantially one-third of the entire industrial capital of the country is invested in cotton mills, while the total annual output of the manufactories of all kinds in Brazil is less than the imports of foreign goods. While on the face of such figures the proportion of the commercial life of the country represented by industrial enterprises is very small, the actual increase in industries shown by them is notable, and in some lines even remarkable. The Diario Oficial gives as the total number of industrial enterprises now registered in Brazil (and none can operate

without being registered), together with the number of employees and financial data, the following:

State.	Establishments.	Employees.	Capital.	Annual production.
Alagoas	21	3,092	$2,010,900	$2,260,800
Amazonas	7	322	542,100	914,100
Bahia	72	9,929	6,667,500	7,488,600
Ceara	18	1,207	1,056,300	888,000
Federal District	584	30,490	42,582,000	61,598,700
Espirito Santo	4	90	89,400	173,400
Maranhão	17	4,550	3,758,700	2,178,900
Minas Geraes	551	8,849	7,453,800	10,849,800
Para	20	1,411	2,394,900	3,873,300
Parahyba	31	1,104	915,000	1,277,400
Parana	79	2,467	3,618,900	4,532,400
Pernambuco	9	11,222	16,283,400	10,632,000
Rio Grande do Norte	5	372	260,400	327,600
Rio Grande do Sul	212	10,490	11,434,500	23,486,100
Rio de Janeiro	190	11,719	25,033,200	15,896,100
Santa Catharina	125	1,692	2,184,000	3,093,900
São Paulo	323	23,007	34,446,600	35,213,100
Sergipe	21	1,563	1,685,100	1,584,600
Piauhy	3	355	402,000	364,500
Total	2,292	123,931	162,818,700	186,633,300

Of the number of factories indicated, those in the States having larger cities, notably the Federal District, São Paulo, Bahia, Pernambuco, Para, and Rio Grande do Sul, include a large number of miscellaneous establishments like furniture factories, manufactories of candles, soap, beer, chocolate, paints, shoes, hats, clothing; in fact all of the smaller and more common establishments common to any city.

COTTON MILLS PREPONDERATE.

The list includes saw mills and carpenter establishments and a similar class of concerns not ordinarily counted as industrial establishments, embracing all millinery and similar places, paper-consuming establishments, printing offices, artificial flower factories, and the like. São Paulo and Rio Grande contain meat and fruit-packing establishments, Rio de Janeiro and São Paulo flour mills; a number of the States contain notable sugar establishments, and in general there are in nearly all the States such small establishments as may reasonably be looked for. But the only industry that in any measure approaches national importance is that of cotton manufacturing. The number of cotton factories in the several States, with other data relating thereto, is given as the following:

State.	Mills.	Employees.	Capital involved.	Production in meters.
Federal District	10	8,300	$17,400,000	76,000,000
Rio de Janeiro	15	6,400	10,800,000	46,000,000
São Paulo	25	7,000	9,000,000	40,000,000
Minas Geraes	30	3,200	3,840,000	18,000,000
Ceara	4	680	570,000	3,660,000
Rio Grande do Norte	1	300	210,000	1,600,000
Parahyba	1	513	452,400	2,900,000
Sergipe	2	800	1,125,000	4,350,000
Pernambuco	5	2,900	4,590,000	22,400,000
Bahia	11	4,000	4,680,000	29,000,000
Alagoas	5	1,850	1,386,000	1,500,000
Maranhão	10	3,630	2,955,000	1,500,000
Piauhy	1	290	507,000	1,200,000
Santa Catharina	12	150	414,000	1,000,000
Parana	3	25	13,500	9,600
Rio Grande do Sul	2	980	1,740,000	2,000,000
Total	137	41,018	59,682,900	251,119,600

Of the total capital invested in Brazilian industrial establishments, over 36 per cent is represented by cotton factories. In view of the fact that a large number of establishments are included in the list of industrial concerns given, which in the United States would hardly be regarded as industrial, the actual percentage of the industrial life of Brazil, according to American standards, held by the cotton industry, is much greater. The cotton mills of Brazil are unquestionably its most prosperous industry—the most prosperous line of business of any sort in the country. Practically all of them are increasing their output and all of them are paying large dividends. Factories like the Industrial Mineira of Rio de Janeiro, the Mageense Fiação & Tecidos, and the Manufactora Fluminense of Rio de Janeiro, and the Paulistiana of São Paulo pay about 25 per cent per annum on an average. Exceptional factories like the Progresso of Rio de Janeiro pay more, this factory paying about 22 per cent on capital trebled in a few years out of its earnings, something like 66 per cent on the original capital. Such figures are taken at random and are characteristic of the business. The custom is to pay the directors of such businesses well and to carry large reserve funds. The entire business of cotton manufacture rests upon the exceedingly high tariff rates on cotton imports in Brazil, which have been discussed from time to time in reports from this consulate general. In general, owners of industrial property in Brazil demand large returns upon their investments.

INDUSTRIAL CONDITIONS.

FRANCE.

RIBBON-MAKING SITUATION AT ST. ETIENNE AND AMERICAN ORDERS.

Consul William H. Hunt, of St. Etienne, contributes the following report, in which he describes the textile industry in that French center for the production of velvet and high-grade ribbons:

In St. Etienne, with the exception of velvet and high-grade fancy ribbons, for which this city has gained renown, the weavers have no specialty. They can produce any kind of ribbon from the cheapest to the very highest grades, including the most complicated designs, by a slight transformation in their looms. This explains why there are very few looms built for one special article. There would be little need for them, as any special kind of ribbon, by reason of the changeableness of fashion, has but an ephemeral existence.

The textile industry in this consular district has suffered during the past year from a marked depression due to various causes, but chiefly to the rapid and sudden fall in raw silk which took place some months ago and the decrease in the American trade. The vagaries of fashion is another factor.

FALL IN PRICE OF RAW SILK.

Raw silk stood at a very high figure at the beginning of last year and manufacturers laid in large stocks under the impression of a still further rise. Events turned out otherwise and the decline took place without warning, causing great confusion in the market. While some houses succumbed and others staggered under the unforeseen circumstances, the majority of manufacturers who had stocked their

store rooms with silk were obliged either to maintain their prices or sell at 50 per cent loss. The result was canceling of orders or the impossibility of keeping engagements on the part of the customers. Hence the depression in the trade. Manufacturers are obliged to cut down the number of their workmen or close their doors two or three days each week.

As for the weavers who work in their homes and who form the majority of the industry about 60 per cent are idle, while the remainder work for low wages. This crisis in the industry at Saint Etienne seems to have reached its most acute stage, and hopes are entertained for an improvement in the near future.

HOME LOOMS—MANUFACTORIES.

The organization of the textile industry at St. Etienne is of two kinds—home looms and manufactories.

The home looms are two or three in number and sometimes four, but the latter number is rare. All these are run by electric-motor power. The hand loom is almost obsolete, in this city at least, and motor power is being extended to most of the surrounding towns and villages. The weavers work on the piece system, the price being fixed between the employers, who furnish the material, and the heads of the family.

Some three or four years ago when the industry was in a flourishing condition the weavers earned a respectable living, which might be calculated at $1 or more per loom per day, on the ordinary cheap ribbon, while those who worked on high grade fancy or velvet ribbons earned about double that amount. At present all this is changed. The wages have fallen so low that thousands of looms are idle and the owners have gone to work in other industries. The wages earned by a family at present per loom does not exceed 54 cents for plain ribbons. These figures may be multiplied by 2 or 3, according to the number of looms. It is rare, however, at present that one family has three looms working simultaneously. The expense per loom for electric power, motor rent, and incidentals reduces the daily earnings per loom to 34 cents. Those who work on fancy high-grade and velvet ribbons are paid from 60 cents to 90 cents per day per loom. The number of threads to the line are from 18 to 30, according to quality of the ribbon, and that of picks or beats 100 to the inch.

Within recent years large ribbon manufactories have grown up in the town and in the neighboring country. Here the weavers have better wages, their earnings averaging 68 cents per day when on full time. The looms mostly in use are the Jacquard and Tambour types. There are some American-made looms to be found, but not many; there is an American loom used in the weaving department of the Saint Etienne manual training school.

COTTON TEXTILE MILLS AT ROANNE.

Roanne, a town of about 40,000 inhabitants, some 60 miles from Saint Etienne, is the seat of the calico industry in this district. The number of mills in the town of Roanne and neighborhood amount to about 50, representing 400 looms per factory for the town proper, and 200 for the country, or 15,000 looms in all. The number of meters of calico turned out by one loom per day is 15, or a total of 225,000 meters per day.

The wages are paid by the piece of 60 meters (about 196 feet 10¾ inches), and vary between 40 cents and $1.35 according to the grade of the article manufactured, but the average earnings, when off days, repairing looms, stock taking, etc., are deducted, do not exceed 58 cents per day of ten hours.

Most of the looms are of the usual type, but the Ratière and the Jacquard are to be found in every mill for special qualities of calico. The number of picks to the minute varies between 130 and 140, the number of threads to the woof, 21 to 28, and to the warp, 28 to 31. The yarn is generally composed of 1,000 meters (about 3,280 feet 10 inches), weighing about 1½ ounces, while the weight of the finished cloth averages 15 pounds per 60 meters.

Owing to the fluctuations of the supply and demand it is impossible to give any accurate estimate as to the net price of the article.

LIVING CONDITIONS OF THE WEAVERS.

The French working classes are very economical in their mode of living, much more so than are the wage earners in the United States. They understand the value of money and endeavor to live within their means. Their praiseworthy efforts are frequently recompensed, as many of their class are landowners or house owners, the result of energy and frugality. The weavers make no exception, in fact it might be said that of all the industrial organizations in the city they practice the most economy.

The rent of their rooms or flats is calculated at $21.23 per loom, and is in proportion to the number of looms.

It may be said that for the past few years American buyers have visited Saint Etienne for the purpose of purchasing the higher grade fancy ribbons, and go to Basle and Barmen to place their large orders for cheap goods, which centers are the largest competitors of the American mills in this class of goods.

GERMANY.

SOME REVIVAL IN THE CHEMNITZ AND RHINE DISTRICTS.

Consul Thomas H. Norton, in reporting from Chemnitz that there are several encouraging symptoms of a market improvement in the condition of the German textile trade, reviews the situation as follows:

Along the Rhine, in Thuringia, and here in Saxony, there is an increase in sales and in orders booked for most articles, especially for dress goods. An average increase of over 4 per cent in the quotations for the leading textile shares, at the end of August, as compared with the end of July, shows a return of confidence.

The conditions of employment in textile mills, however, are as yet unaffected, largely on account of the stocks which have accumulated during the past spring and summer. During the month of July for every 100 vacant places in mills there were 156 operatives seeking employment. This is in marked contrast with the conditions of the two previous summers. The relative number of textile operatives seeking occupation was 90.6 in 1906, and 92.4 in July, 1907. Even in January, 1908, the number was but 121.1.

In comparison with 1907, Germany's purchases of raw material for textile purposes show a serious retrograde movement. During the

first seven months of 1908, as compared with the same period of 1907, the imports fell from 610,506 metrical tons (of 2,205 pounds each) to 533,972 tons. The following table shows the importations in detail of animal and vegetable fibers into Germany, January 1 to July 31:

Article.	1907.	1908.	Article.	1907.	1908.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Cotton	305,976.8	256,675.4	Jute	94,627.9	91,054.5
Wool	135,017.3	114,650.5	Flax	29,451.0	21,036.9
Silk	3,422.4	3,016.8	Hemp, tow, ramie, etc	42,010.6	47,538.3

These figures are a fair indication of what German textile trade is suffering from the business depression since last October. The fall in the price of cotton yarn is likewise most significant. Yarn made from the first grade of American cotton was quoted in August, 1907, at 28.3 to 29.2 cents per pound. In August, 1908, the same quality was quoted at 21.2 to 21.6 cents.

The importation of yarn into Germany (chiefly from England) for the same period of seven months, shows also a noticeable shrinkage. Cotton yarn dropped from 20,268.4 tons in 1907 to 17,681.7 tons in 1908, and woolen yarn from 15,076.2 to 11,983.7 tons in the same period. The total shrinkage is over 16 per cent. Under such conditions capital is slow to embark in textile undertakings. During the first six months of this year $6,350,000 was invested in German joint stock textile companies. During the same period of 1907 the amount was $11,700,000.

EXPORTS TO AMERICA.

In the export of textiles to the United States from the Chemnitz district there are distinct signs of a recovery from the effects of the late crisis. Exports reached their lowest point in May, 1908. The figures for July and August show a very marked advance over those of May and June, although far behind the exports of the same period in 1907. The data of exports for the more important articles follow, as affording a fair idea of the changes which have taken place in the trade of Chemnitz with its most important customer (United States).

Articles.		May–June, 1908.	July–August, 1908.	July–August, 1907.
Cotton hosiery	dozen pairs	477,947	524,183	1,001,695
Cotton gloves	do	184,219	212,723	265,805
Silk hosiery	do	3,446	3,830	11,778
Silk gloves	do	7,024	4,734	47,117
Woolen hosiery	do	3,878	6,043	8,581
Woolen gloves	do	11,165	21,836	52,419
Underwear	values	$9,615	$23,585	$29,882
Upholstery wares	do	$5,735	$8,670	$10,900
Textile machinery	do	$52,042	$58,762	$47,780

While the foregoing figures show clearly a turn in the tide, the textile manufacturers of Chemnitz still look with some apprehension to the immediate future. Stocks are accumulating in their warehouses, the hours of work have been diminished slightly, but no failures thus far have occurred.

Orders for future delivery are booked, however, to a disappointingly small amount. The trade with South America is the only branch not seriously affected by the crisis of 1907. The United

States normally absorbs nearly one-half of the output. Unless a speedy improvement in the demand from the American market takes place, there is no question but that Chemnitz must seriously restrict production. Prices are as low as they can possibly be at present rates for labor and the existing quotations for raw materials. There is no apparent tendency to lower wages, as present conditions are evidently not due to the results of foreign competition, but are the result of a shrinkage in the world's demand for textile products.

An undue prolongation of the prevailing state of the market will in all probability force some of the newer and weaker firms into bankruptcy.

READY-MADE CLOTHING.

MEXICO.

SHIRTS, OVERALLS, AND TROUSERS MADE IN AN UP-TO-DATE FACTORY.

Consul Samuel T. Lee, of Nogales, contributes the following description of a new manufacturing establishment in Mexico which is turning out shirts, overalls, and trousers:

At Nogales, Sonora, Mexico, there is an active enterprise worthy of the attention of American exporters of ready-made clothing. It is a clothing factory which was established in 1905 with six machines, but which now has sixty machines driven by electricity. Besides the seamstresses, this factory employs one expert cutter and assistant, and one engineer and electrician.

All of the seamstresses are paid at piece-work rates, and the factory manufactures shirts, overalls, and trousers.

For sewing the shirts, which sell for $5.25 per dozen, the operatives receive compensation at the rate of 67½ cents per dozen. They receive for the $6 to $9 grades $1 per dozen, and for the highest grades, which sell at $10 to $15, they receive $1.25 per dozen.

The cheapest grades of shirtings are bought in Mexico, and are manufactured at the various cotton mills in the interior of the Republic. These shirtings are about 25 inches wide and cost the factory from 6¼ to 8 cents per meter (39.37 inches). The shirts which sell from the factory for $5.25 to $6.75 per dozen are made from this homemade cloth. The next higher grade is purchased from mills in North Carolina and costs the factory from 6 to 7½ cents per yard. The duty on this material is 5½ cents per square meter, thus the cost of this grade of cloth when delivered at the establishment is about 11 cents per yard. This material is made up into shirts which sell for $6.75 to $9 per dozen. A still better grade of cotton shirting is used at the factory. It is a mercerized shirting which is bought in England. It costs from 14 cents to 16 cents per yard in England, duty on this quality being 8½ cents per square meter. The factory officials assert that these prices are about equal to New York prices for the same grade of cloth. The grades of shirts selling from $9 to $15 are made from this quality of goods.

OVERALLS AND TROUSERS.

The factory produces two grades of men's overalls. The cheaper grade sells for $10.50 per dozen, and the higher grade for $13.50.

For sewing overalls which sell for $10.50 per dozen the women receive 67½ cents per dozen garments, and their compensation for the $13.50 grade is at the rate of $1 per dozen.

The denim cloth for the cheaper grade is purchased from cotton mills in Mexico, and costs 19 cents per meter. The denim for the better grade of overalls is purchased from New York and Manchester, N. H. This cloth costs about 30 cents per yard delivered, and is of the same quality as that which is used for making the best overalls imported into this market from the United States. Both American and English threads are used, but the rivets, buckles, and other findings are of American origin.

The factory produces several grades of men's trousers, both cotton and woolen, which sell for $15 to $37.50 per dozen. For sewing trousers which sell for $15 per dozen the operatives receive at the rate of $1.25 per dozen; for the $18 grade, at the rate of $2 per dozen; for the $24 grade, at the rate of $3 per dozen, and for $30 to $37.50 grades, at the rate of $4.50 per dozen.

The trousers which sell from the factory for $15 per dozen are made from cheap cotton cloth, which is bought in Germany. This cloth costs in double widths 50 to 65 cents per meter put down at factory, the duty on this grade being 10 cents per square meter (1.196 square yards). Khaki trousers, which sell for $15 per dozen, are made from khaki cloth purchased in the United States, which costs 25 cents per yard laid down, duty included being 10 cents per square meter.

Trousers of native wool and cashmere sell for $24 per dozen. They are made of native cloth bought in Mexico at 80 cents to $1 per meter (3.28 feet). The best grades of trousers are made from wool and cashmere cloths purchased in England and Germany. These fabrics cost, laid down at factory, $1.75 to $2.50 per yard, double width, which includes duty into Mexico at the rate of $2 per kilo (2.2 pounds). These trousers sell at prices ranging from $30 to $37.50 per dozen.

IMPORT DUTIES—ENLARGEMENT OF FACTORY.

The Mexican tariff on manufactured clothing is quite high and makes possible enterprises of this nature. The duty on manufactured cotton clothing it $1.37½ per kilo, and on woolen clothing it is $3 per kilo.

A dozen of the cotton trousers would weigh approximately 7½ kilos, and if entered into Mexico as made-up clothing the duty on the dozen at the rate of $1.37½ per kilo would be $10.31. There are about 32 square meters of cloth in a dozen trousers and this cloth, if entered in the bolt, would pay at the rate of 10 cents per square meter. thus causing a payment of duty in amount of $3.20 for the material used to make the dozen trousers, as against the sum of $10.31 if the trousers were entered made up. This saving of duty, amounting to $7.11, is the chief reason for the establishment of this well-equipped factory run by American talent and partly by American capital.

The workers, with the exception of the Chinese cutter, who receives $17.50 per week, are all Mexicans, and the sewing women take to the work readily, for all of them have been taught to sew well from early childhood.

The management of this factory is planning to increase the capacity of the plant and branch out in the manufacture of pillows,

quilts, and mattresses. New machinery, raw products, and supplies will be needed and it would be well for American manufacturers and dealers in such articles to correspond, in English, with this firm.

The sewing machines are driven by electricity. There is one large suction gas producer, which generates gas from charcoal and coke. This gas supplies a 25-horsepower gas engine, which runs a direct dynamo large enough to run 120 lamps, 60 sewing machines, and 1 electric cutter. All of the machinery is of American origin. Coke is purchased from the United States and the charcoal is supplied from the southern part of Sonora, Mexico. The average consumption of coke and charcoal for this plant is 75 cents per day of ten hours.

A PAYING ENTERPRISE.

Some $30,000 are invested in this factory and the officials assert that the enterprise is paying well. Its average daily output for 1907 was 15 dozen garments of all classes. The garments produced are of good workmanship and compare favorably with American-made clothing. The various supply stores of the large mines in this consular district buy large quantities of clothing directly from this factory and this is affecting the trade in American working shirts and overalls which in this climate are the principal articles of a miner's attire throughout the year.

The leading overall which this factory is putting on the Mexican market, and shipping directly to the retailers, is offered at $13.50 per dozen. These garments are made from American denim of the same grade as are American overalls, and are so well made that undeniably there is little choice between them and standard American makes.

The most popular brand of American overalls sold in this section costs, when purchased directly from the maker, $10.50 per dozen in 25 dozen lots, with discount of 6 per cent for cash. True, the American factory price is lower than the Mexican factory price, but the duty into Mexico is about $10.31 per dozen, making cost price here, including duty, $20.81 for the American overalls, as against $13.50, the cost of the home-made garment.

A leading wholesale clothing merchant of Nogales, Ariz., admitted freely that he now sends into Mexico very few American overalls, and that previous to the establishment of the factory described he had a heavy, profitable trade in this article.

WATERPROOF GARMENTS.

LIMITED SALE ON THE TABLE-LANDS OF MEXICO.

In response to an inquiry Vice-Consul C. M. Leonard, of Chihuahua, submits the following report on the sale of waterproof garments in that part of Mexico:

The rainy season in the district extends from July 1 to October 1, after which there is practically no rainfall. The rains are of short duration, usually not more than half an hour at a time, and consequently there is small demand for waterproof garments. The few that are imported come mostly from England, owing to the fact that the English manufacturers make a lighter garment, which effects a saving in duty, and that prices are lower in the English market.

Waterproof cloths are also imported and made up here, though to a very small extent. In the country districts the people use a "poncho" for protection against the rain. This consists of a rubber

sheet with an opening through the center through which the head is thrust. The garment covers the body and is especially serviceable when riding horseback.

For rough use the "slicker" is also used. In a conversation with an importer of this class of goods I learn that if American manufacturers would turn out these garments of a lighter weight at prices no higher than the English make they would secure a larger market for their goods. The reason for demanding light-weight goods is twofold; the saving on duties, as all duties are calculated on the weight of the article, and the rainy season occurring in the summer anything but a very light garment is insupportable. It is also conceded that style and workmanship of the American raincoats are better than foreign makes. [The names of the leading importers of waterproof garments in Chihuahua may be obtained from the Bureau of Manufactures.]

COLOMBIA.

OPPORTUNITIES FOR SALE OF MEN'S ARTICLES.

Consul Isaac A. Manning, of Cartagena, calls attention to the demand in Colombia for men's ready-made white coats and trousers and other ready-made clothing, also ladies' made-up garments, which ought to be supplied from the United States. The consul supplies the following business details:

A number of merchants in the past have imported these articles in linen and drills, from Germany and France principally, and have sold them out rapidly. The German and Franch cuts on this market, however, are confined to lay-down lapels on the coats, and lack the general finish of American white clothes. The demand would be better supplied with natty coats of military cut, braid trimmed, and with trousers made with belt straps, and generally after the styles usually found on sale in the United States. Coats should be of good lengths, in body especially.

These goods could be sold in cotton drill, duck, and linen, but one thing that must be looked to is the matter of packing, which must be light. In fact these goods could best come in bales, the object being to avoid as much expense in duty and freight as possible.

ACTIVE FRENCH AND ITALIAN JOBBERS.

There is also a good opportunity for the sale of ready-made cassimere clothing in light weights and good styles. The greater quantity of this sort of stock shown here comes from Germany, France, and Spain. The reason for this is that French and Italian manufacturers and jobbers send their travelers through here with a full line of samples, while there is an absence of American travelers in the field. Herein lies the secret of this preponderance of export of ready-made clothing from the European countries. Thus of all ready-made clothing for men and women imported through the port of Cartagena during the year ending June 30, 1907, the United States supplied 4,369 kilos (kilo = 2.2 pounds) out of 50,922 kilos. The amount exported from the United States is entirely too small.

It is evident that the American ready-made clothing has more style and better finish and gives better satisfaction, but in order that it may be introduced in this market, traveling salesmen must visit the merchants here, with samples, etc.

Suits should not be too expensive, should be of light weights, good wearing qualities, and attractive colors, in grays, browns, and blacks. They should be of values that could be sold here at from $15 to $25 per suit. Among them might well be two-piece suits, so if vest be worn it could be in light-colored fancy styles.

The duties on ready-made clothing per kilo (2.2046 pounds) are as follows, including weight of packing: Cotton (plain), $1.204; and $1.548 on all the following: Cotton or linen (braided), wool (cassimeres, etc.), silk, mixed cotton and wool, or linen and cotton. All duties being specific, the shippers must naturally pay attention to my suggestions above regarding packing.

A list is forwarded [and filed with the Bureau of Manufactures] of merchants who would no doubt welcome the advent of American traveling salesmen with the lines indicated.

WHITE DRESSES, SKIRTS AND WAISTS FOR LADIES.

There appears to be a good opportunity here for American manufacturers of ladies' white dresses, waists, and skirts. The cost of making white underskirts, after calculating the cost of cloth (long cloth or other cotton fabric), embroidery, and making, is considerably out of proportion as compared with the cost of the ready-made article in the United States. I have reason to believe this market a good one for ready-made white skirts and also ladies' dresses and waists, especially white.

Some experiments have been made with ready-made gowns in colors by one or two local dealers, and they have found a reasonably ready sale for foulards, mercerized sateens, near-silks, at prices ranging from $20 to $30 per suit. I am fully satisfied from a study of the trade here that light-weight white gowns in embroidery, swiss, dimity, lawns, linens, etc., made in good styles and sold to this market at right prices would find ready sale. Some white embroidered shirt waists are shown here, but evidently they were either sold at too high prices or packed so heavily that retail price must be too high. Yet there is a constant demand here for them, and they are very generally worn. No effort has probably ever been made to introduce ladies' underwear, such as white skirts, undervests, corset covers, etc. The danger is in case of such an effort that prices will be too high, through excessive export charges, duties, etc. If this can be avoided, I see an excellent opportunity for American manufacturers and jobbers to establish a good trade here in goods of this character.

SALES SYSTEM, DUTIES, AND SHIPPING.

There is only one thing further in the way of securing this trade, and that is in the hands of the manufacturers and jobbers themselves. Merchants here, like intelligent merchants elsewhere, will not buy without seeing samples and being able to select so as to meet the requirements of their trade. And here is where the traveling salesman is a necessity. It is easier for the jobbers to send their salesmen into a new field and find customers than it is to induce the customers to come to the jobbers. Many of the merchants can not leave their business to visit jobbing centers.

There also enters the matter of credits, and a traveling salesman should be able on his visits to learn the standing of merchants, and know to whom credits might be given. In introducing new lines

the jobber should be glad to give the customer a chance to realize on his purchases, and to establish his trade. In discussing the possibilities of trade in the lines mentioned it is necessary to set forth comparative rates of duty in Colombia on the different articles which go into the makeup of the finished goods and the madeup articles.

Thus, the duty per kilo (2.2 pounds), weight of packing included, is as follows: Muslins, $1.204; embroidered cloth (cotton), $1.548; cotton or linen laces, $1.548; embroidery, cotton, $1.548; embroidery or lace (silk), $2.580; underskirts, cotton, muslin or linen, unembroidered, $1.204; underskirts, same, embroidered, $1.548; gowns or clothing ready made, cotton or linen, plain, unembroidered, and without lace, $1.204; same, embroidered or trimmed with lace, $1.548; same, of silk, $2.580.

It will be observed that the duties are more or less the same on both material and "madeup" articles. This would seem to me to favor American jobbers and manufacturers. Of course if an effort is made to sell such goods here the necessity of the lightest possible packing must not be overlooked. The better way to pack these goods is in bales, or if they will not stand "close packing," then in very lightest boxes, for every extra kilo of weight adds to the duty expense, while if the goods are light every additional square foot of space, or if heavy, every additional kilo in weight adds to expense for freight.

The jobbers should also learn to do this business direct, for every extra commission paid to export houses (and often charged both ways) acts against American effort, and helps to throw the preference to Europe, where charges are kept at a minimum.

[Names of Cartagena merchants who are possible importers of ladies' ready-made dresses, skirts, waists, etc., are placed on record at the Bureau of Manufactures.]

WILD SILK OF MANCHURIA.

A PROMISING INDUSTRY—TRADE WITH UNITED STATES.

The following information concerning the wild silk of Manchuria, introductory to a report on the condition of American trade in Manchuria and what American importers and exporters must do to secure and maintain their full share thereof, is furnished by Vice-Consul-General Charles J. Arnell, of Mukden, but who is located at Antung:

Estimating the average annual export of wild silk from southeastern Manchuria in 1907 to have consisted of 10,000 piculs (1 picul=133⅓ pounds) of tussah, 5,000 piculs of waste, and 60,000 baskets (180,000 piculs) of cocoons, and calculated at the medium market rates of the past season (tussah, $140 per picul; waste, $14.50 per picul; and cocoons, $22.50 per basket) it was worth $2,822,500.

The foregoing figures are as nearly correct as it was possible to make them from the statistics at hand, and are believed to be very close approximations.

SALES OF WILD SILK.

The farmer or manufacturer in southeastern Manchuria usually sells his silk through hongs, or brokers. The hongs enjoy better connections with Chefoo and Shanghai than the farmer could easily

establish, and are thus able to bring him into touch with the best buyers. They also possess large courtyards and godowns in which he is able to store his silk while awaiting sale and shipment. As soon as the season opens the buyers—foreigners as well as Chinese, and in most cases representatives of large filatures—come from Chefoo and Shanghai, as well as other southern ports, and during their stay are entertained by the hongs, who introduce them to the sellers and help them to arrange satisfactory bargains. For their services the hongs charge the seller and the buyer each a commission of 2 per cent. All payments for silk are usually made on delivery. There are five large silk hongs at Antung, besides scores of smaller ones. Since the opening of this port the local Japanese merchants have bought up large quantities of tussah for direct shipment to Japan.

THE FUTURE OF WILD SILK.

The wild-silk industry of southeastern Manchuria seems destined to considerable expansion. There are two recent inventions which should open up new and larger markets for its products. One of these is a process for bleaching the silk, the natural color of which is a golden yellow, and the other is a spinning machine which will make it possible to turn the thread out with fewer knots and much more uniform in thickness than by the present methods. This machine is said to have been invented by an expert in the Yokohama silk examination office. It is predicted that wild silk, as a result of these improvements, will before long reach a market value of but 20 per cent less than that of the white kind.

Tussah enjoys a growing market in Europe, Japan, and the United States, while waste and pongees are exported in increasing quantities to Great Britain and France. The productive capacity of southeastern Manchuria should easily keep pace with the widening demand. It still has many idle hillsides, and offers opportunities for more producers, as well as for production on a larger scale. The improvement which has already taken place, and which is about to take place, in the matter of transportation facilities should serve as an additional encouragement to the industry.

TRADE IN WILD SILK WITH THE UNITED STATES.

The United States has for some time been a purchaser of Chinese tussah and pongees. The exports of tussah thereto during the past four years have averaged 534,000 pounds per annum. The highest figure was reached with 599,600 pounds in 1904, a year in which the total foreign export was exceptionally large. The year 1906, with 508,666 pounds, showed an increase over 1903, but a decrease as compared with both 1904 and 1905. The American figures in pongees have experienced a regular tendency to fall, beginning with 55,066 pounds in 1903 and ending with 11,466 pounds in 1906.

Of the total foreign export of tussah and pongees, the portion taken by the United States during the past four years has averaged 14 per cent in the former and 6 per cent in the latter case. While the United States as a purchaser of tussah has been equaled only by Italy and Macao and surpassed only by France as buyers of pongees, it has stood much nearer the foot of the list, the countries that have outrivaled it being, named in their order of importance, Hongkong, France, and Great Britain. (Hongkong is considered as a distinct country in the Chinese customs returns. Adding the Hongkong

figures to those of Great Britain, the latter becomes by far the largest buyer of pcngees.)

Japan formerly only equaled the United States in the importation of the cloth, but since the close of the recent war it has been surpassing us in the importation of both cloth and thread.

EXPORTS OF TUSSAH AND PONGEES FROM CHINA.

The following table gives comparative statistics of China's foreign export of tussah and pongees during the years 1903–1906:

Country.	1903.	1904.	1905.	1906.
TUSSAH.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
France	.....	.....	1,073,200	1,160,800
Italy	.....	.....	459,600	588,666
Macao	424,133	481,866	412,000	411,333
America	338,272	599,600	554,533	508,666
Japan	286,400	204,666	583,200	547,833
Hongkong	158,933	270,933	131,333	49,466
Great Britain	18,800	31,466	30,133	18,666
Other countries	1,753,862	1,588,531	167,001	121,868
Total	2,980,400	3,177,062	3,411,000	3,407,298
PONGEES.				
Hongkong	166,933	154,000	164.266	146,800
France	.....	.....	87,600	154,000
Great Britain	111,200	43,733	54,533	95,333
America	55,066	38,000	28,000	11,466
Japan	33,733	32,400	23,200	22,533
Other countries	366,268	196,800	87,334	68,801
Total	733,200	464,933	444,933	498,933

The totals, in both tussah and pongees, for 1903 and 1904 include France and Italy, which are not given separately in the customs returns for those years.

Of the waste exported from China, the United States has taken but an inconsiderable portion, practically all of this form of wild silk having gone to Hongkong, Great Britain, and the continent of Europe, mainly France. Until the close of the late war, since which Japan has been importing limited quantities, scarcely any wild silk cocoons were sent abroad.

DIRECT MANCHURIAN-AMERICAN TRADE.

Based on the desirable purchase of this wild silk for American manufacture, Mr. Arnell then draws attention to the large possibilities of supplying American manufactured goods through mercantile houses that would handle both ends of the trade:

As a result of the opening of Manchuria to international commerce and the consequently increasing interest which the United States will doubtless continue to manifest in the trade of this territory, American importations of tussah and pongees, as well as of waste, should, it is believed, commence to increase, and such an increase should exert a most beneficial influence on American commercial interests in general in this region. Particularly would this be so if the conversion of the cocoons into thread and cloth should ultimately be centralized in Manchuria—a condition most likely of realization—and the entire export of those products destined for the United States should be made directly from Newchwang, Antung, and Dalny. American firms should in this manner become direct purchasers from Manchuria,

and as such should enjoy proportionately greater advantages as sellers thereto. At present the trade of the United States with this territory is entirely one-sided. It sells but does not buy, and this fact constitutes one of the principal causes which are destined to handicap American sellers in competition with Japan, which purchases practically the entire output of beancake, Manchuria's most important export. If, therefore, American manufacturers could arrange to buy a larger proportion of wild silk—the export ranking second in importance—this disadvantage would most likely considerably diminish.

AMERICAN BUSINESS BRANCH HOUSES IN MANCHURIA.

In order fully to enjoy the benefits which might result to the import trade into Manchuria of American products from an increase such as mentioned in the export trade therefrom, it would be almost necessary that American merchants establish branches here, and combine in their business the export of the products of wild silk to the United States with the import of cottons, flour, oil, and other goods therefrom. This is what the Japanese are doing in the trade between Japan and Manchuria, and with marked success; they sell their piece goods and miscellaneous articles largely to the same Chinese merchants from whom they buy the bean cake. If American merchants should not consider it advisable to establish their own branches here, the next best plan, though a far inferior one, would be for them to appoint others as their representatives to conduct a direct trade, both export and import, between Manchuria and the United States. But it is believed that resort to such a plan should not be necessary; in other words, that American merchants could establish themselves at Newchwang and Antung, and probably at Dalny also, with profit. Others have done so, and there is no reason why Americans, whose present commercial interests in Manchuria are exceeded only by those of Japan, should not do likewise.

SPECIAL OPPORTUNITY AT ANTUNG.

Speaking with special reference to this port (Antung), it is believed that the conditions will before long be favorable to the location here of at least two American firms. In addition to the importation of American oil, flour, and cottons, which is already large, as well as of other goods whose introduction should be possible, and the exportation of wild silk and timber—an import and export business which should alone furnish suitable returns—the opportunities offered for the erection and operation of steam filatures and looms for wild silk may without hesitation be said to be exceptionally good. An American establishing such a factory should be able to dispose of the larger part of his product in the United States. The advantages of direct exportations of tussah from Antung, as compared with Chefoo and Shanghai, have already been described. An American firm at Antung, it would seem, should also be able to establish an export trade in Yalu timber with the Philippines, and in return import Philippine sugar into Manchuria.

With or without reference to the desirability of an increase in the trade in wild silk, there is no doubt that American merchants can establish themselves profitably in the ports of Manchuria; and, if American commercial interests in this region are to grow, they must do so. Shanghai is too roundabout a channel through which to conduct trade

in a promising region where others are conducting theirs directly, and as a consequence more effectively. [A complete report from Vice-Consul-General Arnell covering the wild-silk industry of Manchuria—cultivation, manufacture, etc.—is on file for public reference in the Bureau of Manufactures.]

WOOLEN GOODS IN MEXICO.

OPPORTUNITIES FOR ENLARGED TRADE IN AMERICAN MANUFACTURES.

Consul William W. Canada, of Veracruz, submits the following report concerning the trade in woolen piece goods in Mexico and the manner in which American woolens can find enlarged sales in that market:

It seems to be taken for granted by some American manufacturers that it is impossible successfully to introduce American cassimeres, tweeds, worsteds, serges, etc., into Mexico, but a careful study of the problem will soon dispel that idea and make it apparent that it is not only possible to do so, but comparatively easy to introduce these goods in this consular district, as well as in other parts of the Republic. The cities of Jalapa (capital), Orizaba, Cordoba, and several other towns of the same elevation in this State, and even Veracruz itself, form a field that can be acquired by American manufacturers at any time. English, German, and French goods are sold almost to the exclusion of other foreign manufactures. Native products do not compete as yet with foreign woolens, save in the lower grades, and while there has been a wonderful advance in the quality of native manufactures within the past ten years, the statement still stands that they do not enter into competition with foreign goods. The English goods sold at Orizaba and Jalapa, in fact throughout this consular district, are of a class which at wholesale do not cost above $1.20 (gold) per yard, and the French goods are of about the same quality. With some exceptions, the patterns are old in style and the goods of an inferior grade. Prices, however, are extremely high; the average is about $4.50 (gold) per meter (39.57 inches). The actual cost to the merchant is about $1.90 to $2 (gold) per meter. Such prices on old stocks are not satisfactory to the buyers.

HOW AMERICAN MANUFACTURES CAN BE SOLD.

For this hot climate only light-weight goods for summer and medium weights for winter are suitable; heavy goods would not sell at any price in this district, because of the climate. A fair percentage of neat, plain patterns would be bought, a larger percentage of rather smart patterns would go off readily, and a smaller percentage of what might be called loud patterns could also be disposed of by a good salesman. A salesman will not make sales of any consequence until a short time before Easter and again prior to the last of October. These are the seasons when new clothing is more generally bought than at any other time of the year. Merchants make their purchases almost always by correspondence, and the goods brought in certainly indicate it. Such a method of selling ought not to be attempted. A salesman should come to the territory or cities with a good assort-

ment of samples and a fair number of bolts of goods. He ought to sell to the merchants if possible; if they will not buy of him, then let him go in and sell to individuals direct.

There are no merchant tailors in this district, with some rare exceptions in the city of Veracruz, and they need not be consulted in the case. The individual can and does buy where he can best suit himself and have any tailor make up his clothes. The people appear tired of the goods laid out to the public and will rally to the salesman or merchant who will give them what they want at a more moderate price. The trade will not be secured unless it is gone after in good earnest, and if it is gone after as American salesmen go after trade in most lines of goods and in most of the world's markets, they will soon have a good trade in this part of Mexico, and on account of the increasing facilities of transportation will be able to keep it.

EXPORTS OF WOOLEN MANUFACTURES TO MEXICO.

According to official figures, supplied by the Bureau of Statistics, the exports of woolen manufactures from the United States to Mexico during the year ended June 30, 1908, were as follows: Carpets, $19,640; dress goods, $4,197; flannels and blankets, $860; wearing apparel, $363,910; all other, $16,505; total, $405,112.

PERSIAN RUGS AND EMBROIDERIES.

AMERICAN ORDERS CURTAILED AND PRODUCTION IS GREATLY RESTRICTED.

Consul W. F. Doty sends from Tabriz the following statement of the depressed conditions in the Persian rug trade and the beauty of Persian needlework:

Owing to the closing of the bazaars at Tabriz and many other cities of Persia during the past ten months, and to the difficulties of transportation on the highways, the rug industry has suffered materially. Added to this has been the lessened American demand for luxuries such as Persian rugs. Prices have fallen here at times recently by one-third, and rug exports have fallen off one-half lately.

Large carpet factories have had to close, fearful of being looted, but possibly a month or two hence conditions will improve. A year or two will bring about higher prices. Labor here now commands only between 5 and 10 cents a day.

Persia still produces excellent effects in needlework. Embroidery in gold and silver thread is very attractive, especially when the designs upon velvet or silk are delicate traceries of roses and other flowers, the characteristic palm leaf, or of trees with spreading branches in which are birds, or of representations of hunting scenes. Resht at present is especially renowned for its silk embroideries. Upon broadcloth small pieces depicting the human figure, animals, flowers, or other suitable designs are sewed with silk threads. The result is very pleasing. There is similar work made of velvet and silk. These embroideries are suitable especially for wall hangings and for covers for divans and cushions. More rarely are to be found rugs of silk or velvet exquisitely embroidered with threads of silk, and even of gold and silver. It is understood that modern Europe gained its inspiration for exquisite embroidery from Persia.

PERSIAN CALICO PRINTS.

REMARKABLE DESIGNS EXECUTED BY LOCAL FACTORIES.

Another article in which Consul Doty says the American public might do well to take an interest is printed calico manufactured especially at Ispahan, suitable for curtains for doors or windows, for tables and couches, and for wall hangings. His description of the fabric reads:

The larger pieces are about 20 feet long by 3 feet or 4 feet wide, others about 6 feet by 6 feet, and many other sizes. The cotton cloth for printing is manufactured at Ispahan, although the foreign product is rather preferred. The designs are often exquisite, representations of flowers, peacocks with spread tail feathers, almonds, the tree of life (with or without leaves), leopards, elephants, lions, deer, and hunting scenes in which the men are depicted as shooting arrows at wild boars or gazelles; war scenes which are extremely grotesque; large men on disproportionately small horses cleaving one another with great swords, splitting the body in two; important events of the national history, and countless other interesting designs.

In northwestern Persia these are generally called "kalamkars," and may be secured somtimes as cheap as $1 per square yard. While the name by which they are denominated signifies "pen work," a stylus is used only in tracing delicate lines after the main design has been produced by the method of block printing. To another I am indebted for detailed information as to this process. The block is of hard wood, containing in relief the design, which is frequently repeated on the same piece. One block serves for only one color; accordingly many blocks must be used in completing the design. Pieces of cotton cloth are first immersed in material contained in the intestines of sheep; drying and washing follow; then they are kept for a time in a solution of gall nuts. Afterwards they are dried in the sun.

To secure black coloring fluid, old rusty nails are kept for two or three weeks in water, which is occasionally stirred; the water is drawn off, a small quantity of castor oil and alum are added and boiled down to a pasty consistency, this applied to the block. For red, some bol Armenian and alum are boiled with gum of the apricot or other trees contained in small muslin bags. The designs are for the most part in black and red. To secure blue, a paste of indigo and water is boiled, and to this are added some potash, lime, and grape sirup; blue is generally applied to the cloth hot. The main ingredient for yellow is pomegranate skin boiled with alum. After the application of the colors, the cotton fabric must be washed and spread out in the sun and frequently sprinkled during a month. The above process insures fast colors. When analine dyes are employed, the colors are almost invariably fugitive. Factories in Russia, and to some extent elsewhere in Europe, are now producing cotton prints of Persian designs, and some of these are introduced even into Persia itself. The persiennes of France have attained a somewhat wide notoriety.

EMBROIDERY LOOM IMPROVEMENT.

NEW GERMAN ATTACHMENT FOR WEAVING IN COLORS AS DESIRED.

Consul Carl Bailey Hurst writes that in the Plauen center for the manufacture of machine-made laces and embroideries, German experts are constantly seeking improvements or variations in the goods produced here. His following report tells of their success in constructing a color-changing loom:

For some time past there has been a general tendency to bring out new embroidered effects, and after a number of experiments the great machine works in Plauen have succeeded in perfecting a moderate-priced loom that will embroider in different colors without changing the thread of the needles. It is in fact a device that may be likened in a way to printing simultaneously with different inks on a printing press.

For the purpose in question the common model of embroidery machines is provided with a double interchangeable set of oblong ink troughs, to be filled with the ink fluids. These ink troughs are placed between the yarn cops and needle bars. By a movement of a handle the embroiderer can cause the threads to be put into one or another set of troughs to be dyed in such color as may be desired. With the natural or white color of the thread one can embroider with two or three, or even more colors, by putting in other color ink or setting in new inking pans. The threads, after having left the ink troughs, are guided over heated iron tubes for drying. The interchanging of color takes about five minutes. As the mechanical device is of chief importance and is patented, no secret is made of the composition of the inking fluids, which are the same as those ordinarily employed in dyeing yarns and can consequently be obtained almost anywhere. The machine, built in 5-yard lengths with horizontal shuttles, will work with the usual speed, with cotton, silk, or other material.

Whenever the fashions may call for embroideries in colors, this new loom is destined to take a leading part in supplying the market, so that there will be no need to revert to the former slow method of changing the thread whenever a new color is required.

IRISH FLAX GROWING.

STEADY DECLINE IN THE ACREAGE PLANTED.

Consul Samuel S. Knabenshue, of Belfast, submits the following report on the decreasing production of flax in Ireland:

The department of agriculture and technical instruction for Ireland has reported a decrease of 12,738 acres for all Ireland in the area devoted to flax culture. Last year there were 59,659 acres in flax, as against 46,921 acres in 1908. Of this year's acreage 46,687 acres were in the province of Ulster, which is embraced in this consular district. The decreased acreage in Ulster was 12,727.

This decline in the flax area in Ireland has been going on for a number of years. The heavy reduction in acreage for 1908 is attributed chiefly to the fact that the price of scutched flax last year was very unsatisfactory to the farmers; the depression in the linen

trade which set in last fall gave no promise of an increase, and notwithstanding the number of unemployed in the cities, it is difficult to hire help in the flax pulling and retting season.

Last year Ireland supplied about one-fifth of the scutched flax which the mills required; the remaining four-fifths were obtained from the Continent, Russia furnishing by far the greater portion. This year the mills will be compelled to rely to a still greater extent on the Russian supply.

CUBAN JUTE.

A COMPANY BEING FORMED FOR EXPLOITING THE INDUSTRY.

Deputy Consul-General Henry P. Starrett, of Habana, transmits an article from a local newspaper concerning the proposed exploitation of wild jute in Cuba, from which the following information is compiled:

The plant, now discovered to be jute, grows wild all over the island, has been known as malva and has been considered a pest, toward whose eradication every effort has been made. For the purpose of exploiting this jute and manufacturing sugar sacks therefrom, a company, backed by some of the leading sugar growers and steamship men of the island, is being formed. A plant is to be installed in Habana, which will necessitate the purchase of $700,000 worth of textile machinery, which will turn out enough sacks to supply the entire island, and then break into the English trade in the United States. The company expects to be fully organized in October, and will, it says, begin turning out sacks at the rate of 1,500 daily. The plant will be enlarged as fast as the machinery arrives, all of which will be imported from England. Cuba uses 10,000,000 sacks per year, all of which are imported and manufactured from Indian jute. The Cuban plant grows very much like the sunflower, but usually not so high. It grows wild and no effort has ever been made to cultivate it. In this condition it will be gathered for manufacturing purposes, the wild jute being sufficient to supply the market for several years. It can be cut three times a year, in either wet or dry weather.

All the world now depends on India for its jute. In 1904 the total jute exported from India was 6,900,000 bales of 400 pounds each. At that time, according to the statistics of the Department of Agriculture at Washington, the United States consumed only 500,000 bales. At the present time the United States consumes ten times that amount, or about 5,000,000 bales. It is only in the last four years that the United States has begun to use jute for its sacks and cotton bagging to any great extent, but that country is now the greatest consumer in the world.

IMPORTS OF JUTE AND JUTE MANUFACTURES.

The following statement, taken from the publications of the Bureau of Statistics, shows the imports of jute and jute manufactures into the United States during the years ended June 30, 1904, and 1908:

Jute imports.	Value.	
	1904.	1908.
Jute and jute butts:		
United Kingdom	$80,551	$303,213
East Indies	4,007,604	6,146,355
Other countries	16,712	55,352
Total	4,104,870	6,504,920
Burlaps:		
United Kingdom	4,328,588	8,966,944
East Indies	10,197,963	19,145,619
Other countries	114,096	112,096
Total	14,630,647	23,224,659

Jute imports.	Value.	
	1904.	1908.
Gunny cloth bagging, suitable for covering cotton	$263,680	$1,068,097
Jute bags	1,307,231	3,941,381
Total manufactures	16,201,558	28,234,137
Total jute imports	20,306,428	31,739,057

CHINESE RAMIE EXPORTS.

POSSIBLE DEVELOPMENT OF FIBER INTO LEADING TRADE COMMODITY.

Writing from Hongkong Vice-Consul-General Stuart J. Fuller says that the annual report of the acting commissioner of Chinese customs at Swatow makes some remarks in regard to ramie, which may be of interest in the United States in view of the recent investigation into the use of this fiber on the part of textile manufacturers. Mr. Fuller continues:

This is the first year that ramie has appeared in the exports from Swatow, and indeed it has not been hitherto of commercial importance in the South China market. Considerable interest is taken in this matter at Swatow, and it is thought possible that in ramie will be found a product that can successfully replace sugar, Swatow's former staple. The commissioner says that the industry is not yet extensive, being confined to the Chaoyang district.

Plants are said to grow rapidly and can be cut three or four times a year. The prepared ramie is worth $40 Mexican (at present rate of exchange equivalent to about $17 United States gold) per picul of 133⅓ pounds, as against $20 for the Hankow article. It is important to note that the amount of ramie handled at the port of Swatow in the year 1907 aggregated 64,133 piculs, equivalent to 1,551,066 pounds. Names of European firms in Swatow who could give information in regard to ramie fiber are forwarded [and may be obtained from the Bureau of Manufactures].

HOSIERY IN INDIA.

JAPANESE HOSIERY IN INDIA CLOSING INDIAN HOSIERY MILLS.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning Japanese hosiery in India:

The value of hosiery sold by Japan to India increased from $36,460 in 1902–3 to $1,279,743 in 1907–8. The explanation as to how Japan could do this was given as follows: Skill on the part of the Japanese; cheap but effective machinery; cheap labor; persevering attention to the Indian market; efficient aid by the Government in advising manufacturers how to go about getting foreign trade.

One Japanese mill engaged in manufacturing a class of goods largely shipped to India employed 290 hands, nearly all girls, who worked for very small wages. It should be noted, however, that the wages of girls in Japanese mills are fully as much as those paid girls in Indian mills. Most of the machinery was of Japanese manufacture, patterned after American machinery. In this way the mill was equipped at about one-fourth the cost of an Indian mill of the same capacity. The goods for the Japanese market were finished on American sewing machines, while the export goods were finished on low-priced sewing machines made in Germany.

The normal freight on the goods from Japan to Calcutta is $1.50, but the vessels, which carry jute to Japan, take return cargo at what they can get, which often is less than half the normal rate. Thus Japan by a severe economy in everything affecting the production and transportation of goods to India is able to undersell the Indian

mills. The effective economy is in the equipment of the mill, the kind of finishing machines used, and taking advantage of low rates of freight, etc. It is altogether likely that much of the saving is in the skill and quickness of the Japanese girl, the regularity of her work, and longer hours of labor compared with the Indian woman.

While this mill, for example, was making money and selling most of its product to India a mill manufacturing the same class of goods, located at Bombay, shut down because it could not compete with Japanese prices.

NOTTINGHAM-UNITED STATES TRADE.

EXPORTS OF LACES RECOVERING THEIR FORMER IMPORTANCE.

The following statistics concerning the exports from Nottingham to the United States are furnished by Consul Frank W. Mahin, of that city:

Nottingham's trade with the United States is again of normal volume. The value of the exports as declared at this consulate during the quarter ended September 30 was greater by 10 to 50 per cent than that of any corresponding quarter for more than ten years, excepting 1907, which was a phenomenal year.

The declared value of the exports to the United States during the quarters ended September 30, 1907 and 1908, was as follows:

Articles.	1907.	1908.
Hosiery, including underwear	$84,309	$55,629
Lace goods	1,464,805	1,168,236
Machinery (mostly for lace making)	35,351	52,681
Cotton yarn	48,654	49,508
Salted sheepskins	56,655	11,794
Silk yarn	26,220	18,776
Leather	26,616	15,433
All other articles	138,050	154,698
Total	1,880,660	1,526,755

The September quarter is usually light in exports of Nottingham goods to the United States, and the value of the laces exported has not, since 1882, exceeded $1,000,000 in that quarter, except in 1907 and 1908.

Lace machinery has been exported to the United States during the whole of this year in larger quantities and values than in 1907. On the whole this is an average year, despite the fact that the lace market has been much depressed and many sales have been made below the general range of prices for the past several years. Hosiery is not sharing in the trade revival so evident in lace goods. The downward tendency of exports to the United States during the past fifteen years is still pronounced.

Local trade and exports to countries other than the United States continue much depressed, with no present signs of improvement. It is expected that the number of unemployed in this district will be unusually large during the coming winter, with much attendant distress.

FINANCES AND ECONOMICS.

BANKING AND BUDGETS.

GERMANY.

SAVINGS BANKS CONDUCTED BY THE MUNICIPALITIES.

In furnishing the following information concerning savings banks in Germany, Consul H. N. Harris, of Nuremberg, says that they are conducted by the leading cities and towns and by many manufacturing concerns for their employees:

Savings banks (Sparkassen) have been, for many years, conducted by the leading cities and towns in all parts of Germany as well as by many private manufacturing concerns for their employees. These institutions are patronized chiefly by people whose savings are small, and take the place to a considerable extent of the savings banks, building associations, etc., in the United States. Those under municipal control have the credit of town or city back of them. The conditions as to rate of interest, terms of withdrawal, etc., are, as a rule, less favorable than those of the larger savings banks in American cities, but the institutions are generally well conducted and patronized.

Latitude is given to the municipal authorities in the investment of the funds of the banks. The institutions are municipal institutions and are left chiefly to the good faith and judgment of the municipal officers. The annual statements and accounts are subject to the examination and control of state authorities. Of the funds invested at interest in 1906, 48.8 per cent were on mortgage securities, the balance in state bonds and other securities, including some issued by private concerns chartered by the State.

DEPOSITS IN THE LARGER STATES.

In 1904, the latest year for which comparative figures are obtainable, the total deposits, together with the average deposit per depositor, and per capita of population in the municipal savings banks in the larger German States were as follows:

States.	Total deposits.	Per depositor.	Per capita of population.
Prussia	$1,712,897,000	$179	$46
Bavaria	105,600,000	119	16
Saxony	299,000,000	112	66
Wurttemberg	84,100,000	139	37
Baden	125,700,000	270	63

BAVARIAN SAVINGS BANKS.

In 1906 the total number of municipal savings banks in Bavaria was 359. Many of these are located in the smaller towns, and are used

by the population of a considerable number of neighboring towns and villages. The total deposits in these institutions at the close of the year 1906 was $120,000,000, as against $105,800,000 at the close of 1904. The average per depositor in 1906 was $126, and $119 in 1904, while the average per capita of population for the two years was $18 and $16, respectively.

The tendency in Bavaria in recent years has been for withdrawals to increase at a more rapid rate than new deposits, so that net deposits have shown a somewhat diminishing rate throughout the Kingdom. The figures for three years are given as follows:

Year.	New deposits.	Withdrawals.
1904	$23,490,000	$17,350,000
1905	24,000,000	19,300,000
1906	25,200,000	21,300,000

The total number of depositors in 1906 was 946,733, against 889,042 in 1904, or approximately one depositor to every seven persons in the Kingdom. The average rate of interest in 1906 was 3.19 per cent, and 3.27 per cent in 1904. Five banks paid 4 per cent in 1906, 134 paid from 3½ to 4, and 220 less than 3½. The cost of management in 1906 was $228,000.

The net surplus above deposits in the savings banks of the Kingdom in 1906 was $9,972,000, or 8.3 per cent of the total deposits. Of this amount $9,210,000 was legal reserve which, under a statute of 1874, is fixed at 10 per cent of the deposits, no time being provided at which this reserve is to be attained.

NUREMBERG SAVINGS BANK.

The City Savings Bank in Nuremberg has been in operation since 1821. Its depositors at first were limited to certain classes, such as employees in factories, day laborers, apprentices, etc. Since 1874 it has been open to all classes desiring to make deposits in sums from 1 mark (23.8 cents) to 3,000 marks ($714). From 1875 to 1888 the rate of interest was 3½ per cent; since 1888 it has been 3 per cent. On deposits made within the first 15 days of the month interest is reckoned as from the first of the month, otherwise from the beginning of the following month.

The total resources of the Nuremberg Savings Bank at the close of 1907 was $6,850,000. New deposits during the year were $1,702,000, while withdrawals amounted to $1,914,000.

The amounts to the credit of the 71,931 depositors at the close of 1907 were as follows, per depositor:

Per depositor.	Depositors.	Per depositor.	Depositors.
Up to $11.90	17,105	$119 to $238	9,845
$11.90 to $23.80	8,760	Above $238	9,163
$23.80 to $119	27,058		

The total cost of management for 1907 was $10,512. To this is to be added $15,368, representing the interest on the reserve fund, which is paid to the city as the legally responsible proprietor of the undertaking.

BRAZIL.

AGRICULTURAL BANK BACKED BY GOVERNMENT.

Consul-General George E. Anderson, of Rio de Janeiro, forwards the following outline features of a new agricultural bank which is to be established in Brazil for the relief of financial stress among agriculturists and for developing plantations along modern lines:

The announcement of the regulations of the Banco Agricola, or agricultural bank, established by the Federal Government of Brazil, as provided for in a law passed by the Brazilian Congress in November, 1907, indicates that this institution is likely to develop into one of the most notable features of national finance. These regulations, just promulgated, indicate that the institution rests upon a plan for aiding the agricultural interests of the country, which is quite original and probably without precedent anywhere. It contemplates a system of loaning money on agricultural security which extends from Rio de Janeiro to the remotest parts of the Republic. The dominant idea is that this bank, established by the authority of the Government, and supplied with funds by the Government, is to be the central bank for a series of state or district banks now in the course of establishment by the several state governments. Aside from general deposits, including governmental deposits, it is provided that this central bank shall use in its business an amount of money equal to its capital out of the surplus or reserve funds of the Government savings bank. The regulations provide that the capital of the bank shall be $9,000,000 gold, divided into 150,000 shares of $60 each. The capital is payable in installments, the first of 20 per cent and the rest at intervals of thirty days.

RELATION OF CENTRAL TO STATE BANKS.

The business of the bank is practically limited to the extension of credit to agricultural interests by dealing in notes and other paper based upon agricultural securities, and it is expected that its practical operation will consist very largely in the purchase or discount of mortgage notes taken from planters and agricultural societies or syndictates by the state or district banks. In general the relation of this central to the state or district banks is the critical point in its business. It is provided in the regulations that the central bank may purchase of the state banks hypothecary notes issued by such state banks bearing 7 per cent interest and having the guaranty of the respective state government as well. On the basis of these state-bank notes thus secured the central bank may issue hypothecary notes of its own, bearing 5 per cent interest, payable annually, up to the full amount of the hypothecary notes of the state institutions held by it, but not to exceed a total of five times the capital of the central bank. The hypothecary notes issued by the central bank, however, must be issued in series with the consent of the federal minister of finance, and will have the guaranty of the Federal Government as to the payment of the 5 per cent interest. Such hypothecary notes of the central bank, therefore, are in the nature of bonds, and will constitute in a way an internal issue of bonds guaranteed by the Federal Government.

The hypothecary notes of the State banks upon which the success of the enterprise depends more or less are to be based upon State

security and apparently are without limit as to their original security. The particular favor to agricultural interests is given in the provisions which permit the central bank to undertake the purchase or discount of credit paper issued by the State banks or by cooperative or other agricultural societies, whose members are each and severally liable for the whole of the loan, and guaranteed by the State banks and arising out of the following transactions: a, loans on agricultural security for periods not exceeding one year; b, the discount of land bills (letras de terra) for terms not exceeding one year when such bills are guaranteed by two solvent firms, of which one must be a farmer, planter, or manufacturer, and in addition to such guarantee the guarantee of the State itself; and c, to discount warrants and merchandise bills (letras e bilhetes de mercadorias) drawn in accordance with existing laws. These land bills or letras de terra are in effect promissory notes good only in the State in which they are made, being of Portuguese origin and at present of limited use. The merchandise bills and warrants are of the general nature of warehouse certificates.

In line with the general business of the branch or State banks the central bank may loan money to agricultural syndicates or cooperative societies for periods not to exceed two years and may act as a broker for the purchase and sale of hypothecary notes on commission. It may receive ordinary commercial accounts according to the banking rules generally obtaining in Brazil. The bank is authorized to deal directly with customers in the several States where no State or branch banks are established, to establish agencies or branches of its own in the interior, and to receive accounts in the nature of savings deposits and pay upon such deposits a higher rate of interest than that allowed on other accounts. The federal treasury is authorized to advance money to the banco agricola out of the funds of the Government savings bank and on these advances 2 per cent interest is to be paid.

BANK IS ESTABLISHED TO RELIEVE AGRICULTURISTS.

This banco agricola has been established by the Government in response to a long course of agitation from the agricultural interests of the country, and while it is expected that the stock will be subscribed readily by Brazilian financial interests which are concerned in agricultural matters the Federal Government itself is authorized to take whatever part it may be deemed advisable in order to insure governmental control. One of the long-standing complaints of the agricultural interests of Brazil has been a lack of facilities for borrowing money with which to carry on their business. The average Brazilian planter has long been accustomed to raise his crops on credit. The owner of a coffee estate generally borrows from the "commissario" or buyer of coffee what money he needs for the payment of labor required for the care and cultivation of his trees, for gathering and packing the crop, and for other advances to get the crop to market. Money is generally advanced to cover the entire living expenses of the planter's establishment, and the whole transaction is in effect a sale of the crop in advance on the basis of a yearly settlement in which the planter pays high rates of interest, and often is compelled to relinquish his rights to his product at a low price. The planters have claimed that with proper banking facilities, whereby they may be able to borrow money at fair rates of interest on their land or their crops, they will be in a position to protect

themselves from both unfair dealing and temporary unfavorable turns in the market. They also will be able to secure funds for developing their estates upon modern lines.

MONETARY CIRCULATION.

Practically the only gold and silver money in circulation in Brazil since the proclamation of the Republic was coined in 1907. In 1906 there was coined a total of about a third of a million dollars. Previous to that time the only money in circulation in Brazil was the inconvertible paper money and a few copper coins used chiefly by banks for making change and with the addition of necessary nickel coins for amounts less than 1 milreis, the latter worth at present exchange 30 cents. The amount of money coined under the new order of things, according to a statement of the work of the Brazilian mint just issued by the minister of finance, is as follows:

Year.	Gold currency.	Silver currency.
	Milreis.	*Milreis.*
1903	17,410	158
1904	14,290	.....
1905	.....	.....
1906	7,920	1,108,000
1907	74,980	7,946,000

The total amount of silver coined since the new coinage was inaugurated, therefore, is 9,054,000 milreis, or, at present exchange, $2,716,200. The amount of gold coined is at par exchange the equivalent of $62,572, and the total of gold and silver coined amounts to $2,778,772. This is practically the total of the coin in circulation, and with a population of 16,000,000 amounts to 17.36 cents per capita. The Caixa de Conversão, or exchange bureau, since its organization under the new régime, has issued a total of 98,350,120 milreis, or $29,491,536, now outstanding. This money is issued against gold of the equivalent value in the Brazilian treasury. The total of all gold and silver money and of paper money secured by gold in the treasury amounts to $32,270,308, a per capita circulation of $2.0136 in American money.

The amount of inconvertible paper money in circulation in Brazil has been reduced in recent years in accordance with the announced policy of the Government, the amount in circulation on August 31, 1898, being 788,351,614 milreis, as compared with 642,963,951 milreis in circulation on February 29, 1908, according to a statement in the Diario Oficial. At present exchange this circulation has a gold value of $192,889,185, which at a population of 16,000,000 amounts to $12 per capita, inconvertible paper. The total per capita circulation of Brazil at present, therefore, is substantially $14.0136, of which one-seventh is in coin or based upon gold.

CONCESSION SOUGHT FOR A READY-MADE SEAT OF GOVERNMENT.

Consul-General Anderson, in reporting that the constitution of Brazil adopted in 1889 provided that the capital of the country should be located in the central region, for which a site in the State of Goyaz was selected, describes the present interest in the matter as follows:

It was believed by some at the time the site was selected that it was so far inland and inaccessible that it would prevent the moving of the capital from Rio de Janeiro. However, the provision

for its removal "in due time" remains. During the current session of the Brazilian Congress the question is being discussed, and a syndicate, headed by Señor Adolpho Leyret, has presented the matter formally to the committee having such matter in charge and has asked for a concession for the construction of a ready-made capital. The syndicate agrees to build proper structures for all the departments of the Brazilian Government, including a Presidential palace; to make roads, pave them, and plant them with trees; build a railway to the district from the nearest railway in Minas Geraes; to establish an adequate electric light and power system, an adequate system of tramways, proper drainage, an adequate water supply, telephones, and the like, and to colonize the surrounding country.

The syndicate proposes to construct and man a ready-made city for the Government. It proposes to commence work within six months and complete its task within five years. As compensation for its work and expenditures the syndicate asks that the Government agree to move the capital to the new city within twelve months after the completion of the work; asks all land in the city not required for buildings for the Government and public purposes; asks a ninety-year franchise for its railway, tramway, power and light, telephone, and similar concerns; asks the right to expropriate property for the use of the enterprise under ordinary rules as to compensation; asks freedom from duties for its materials, reduced freights on Government railways for the same, and freedom from taxes in the new capital for twenty years.

There are no indications that the enterprise will be given serious consideration at this time, although it is likely to develop considerable discussion.

PANAMA.

LARGE IMPORTATIONS—CASH RESERVES OF THE REPUBLIC.

George T. Weitzel, American chargé d'affaires at Panama, in sending the following salient features from the report of the secretary of treasury of Panama to the National Assembly of that Republic, says that 1 balboa of Panama currency is equal to $1 American currency:

During 1907 the imports from the United States amounted to $5,196,964, and from elsewhere, $4,367,486, making a total of $9,564,450. To this should be added goods imported by the Isthmian Canal Commission and not paying duty, $13,468,359. The exports aggregated $1,960,665, 70 per cent of the total being bananas.

The revenues of the Republic, principally customs duties and excise taxes, during 1907 amounted to $2,439,302. Concerning the expenditures, the secretary states: "My estimate of expenditures of $2,433,866 per annum reaches those figures; and as the Republic of Panama has no war budget, happily, nor foreign nor internal debt, it will soon have a surplus if we keep within the present estimate." The assets of the Government are as follows:

Interest-bearing securities, etc., deposited in New York	$6,300,000
Current account in New York	1,505,307
Funds in government treasury	55,390
Deposited in government bank	250,000
Total	8,110,697

UNITED KINGDOM.

PROFITS DERIVED FROM MUNICIPAL TRADING.

Consul Frank W. Mahin, of Nottingham, furnishes the following information concerning the results of the trading undertakings of that city:

The annual report of the Nottingham city auditor shows indebtedness of about $30,000,000. This, in a city of 260,000 population, exceeds $115 per capita. Against this the auditor places the city's assets at about $45,000,000. These include the "trading undertakings," gas, water, electric plants, and street railways, schools, a college, sewage farm, public buildings, sinking funds, etc. The trading undertakings are valued at their cost price, $15,000,000. The surplus of assets over liabilities is considered as savings of the municipality, after providing for all contingencies and keeping all the assets in good working order.

Taking account of the original cost and present capital liability, the net profit of the trading undertakings for the last municipal year is given as follows: Electricity, 12.66 per cent; gas, 9.75; street railway, 11.13; water, 8.34. The combined net profit on these is stated as the equivalent of 9.8 per cent on the capital employed, against 8.81 per cent the preceding year. From these undertakings the city treasury received $282,257 during the past year, without which the taxpayers would have been called on for 20 per cent more than they paid.

There is always an element in the community which contends that the trading undertakings really increase more than they reduce taxes, that sufficient allowance is not made for depreciation, that other important factors are ignored, and that, for these and other reasons, the auditor's figures and deductions are misleading. But the city officials contend that they follow the approved methods of private companies in their calculations, and that the closest study of the city accounts will demonstrate that the trading undertakings are a substantial relief to the taxpayers. At any rate, the service performed is generally satisfactory and not expensive to the individual citizen.

CHINA.

ESTABLISHMENT OF BANKS IN NETHERLANDS INDIA PROPOSED.

Consul-General Thornwell Haynes, of Singapore, transmits the following extract from a local newspaper relative to the proposed establishment of Chinese banks in Netherlands India:

The Chinese residents at Batavia have long been eager to have a bank of their own. The Java Bode hears now that the scheme is on the point of materializing. A delegate from the Siang Hui, an association in Singapore, arrived at Batavia on August 21, with the object of talking the matter over with the branches of the association there and with the leading members of the Chinese community. A meeting was held for the purpose, at which the scheme was discussed, but no resolutions were passed. Those present were informed that the Siang Hui of Singapore would raise $1,000,000 should the establishment of the bank be proceeded with. In that case the head office of the bank would be established at Shanghai, and branches would be opened in different parts of Netherlands India. Arrangements were then made for delegates from the Chinese chambers of commerce at Singapore and Shanghai to hold a meeting to explain the banking scheme to the Chinese mercantile community at Batavia on September 3. The Java Bode learns that there is every likelihood of the proposed bank being an accomplished fact ere long.

ROUMANIA.

EXCELLENT CONDITION OF THE TREASURY.

Consul-General Norman Hutchinson, of Bucharest, reports upon the actual situation of the public treasury of Roumania as follows:

The receipts of the treasury from April 1, 1907, to August 31, 1908, amounted to $60,600,578, while from April 1, 1906, to August 31, 1907, they only amounted to $57,507,963, which represents an increase of $3,092,615 for the 1907–8 period. For the first five months of the 1908–9 period, April 1 to August 31, the receipts amounted to $28,019,886, representing an increase over the same period for last year of $4,330,317. In view of these figures, the financial situation of the public treasury is considered very satisfactory.

POSTAL SERVICE.

BRAZIL.

RATES CHARGED RETARD MANY LINES OF COMMERCIAL ACTIVITY.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the postal service of Brazil:

In his annual report the Brazilian superintendent of postal affairs calls attention to the condition of the service, and present indications are that there will be some changes therein as a result of that report. American business men are interested in the prospect, for under present conditions the rates charged are so high as to prevent many lines of commercial activity which American business men favor in foreign trade. At present the Brazilian post-office charges 9 cents for a foreign letter of less than half an ounce, while penalty postage on letters coming from the United States, for instance, is assessed at 18 cents per half ounce. Brazilian postal authorities have declared many times that changes in rates can come only after a reorganization of the service such as the superintendent in his report now asks.

The superintendent shows that the business of the Brazilian post-office in 1907 exceeded that of any other year in all branches except in the parcels-post division, wherein there was a loss of about 8 per cent in imports and 10 per cent in exports. The income of the service in 1907 amounted to $2,907,900, which was $387,300 more than in 1906. This income includes $183,300 derived from postage on official correspondence, which is provided for in the system by the issue of special official postage stamps.

The expenses of the service in 1907 amounted to $3,689,700, which was $206,700 more than in 1906. Attention is called to the fact that while at the beginning of the last decennium the difference between the income and the outgo of the service amounted to about 40 per cent it now amounts to only about 27 per cent, the report adding: "These arguments are for those who consider the postal service a fount of income."

The transportation division of the service was increased in 1907 by 104 postal lines, with an addition of 8,562 trips during the year. There are at present a total of 1,691 postal lines, with 2,934 messengers, covering an extension of 78,556 miles. On the lines a total

of 332,856 trips were made during the year, an aggregate of 16,929,646 miles. These figures are practically double those of ten years ago. There are in the service 3,033 post-offices, employing a total of 3,442 persons.

MEXICO.

ADVANTAGES OF THE PARCELS POST OVER OTHER SHIPPING METHODS.

Consul M. K. Moorhead advises that the Mexican importers of Acapulco are complaining that American exporters do not obey shipping instructions, and consequently subject them to great expense and annoyance. He gives some practical examples and suggestions:

Here is a case that has just come to my notice. A local merchant sent in a small trial order to an American firm, with instructions to ship by parcel post. Instead the goods were sent by express. There is no railway to Acapulco, so the express company sent the goods to the nearest railway station, Rio Balsas, which is 150 miles from Acapulco, on the eastern side of the mountains, and the express agent wrote a notice to the consignee to call for his package. From Acapulco to Rio Balsas it takes four days' hard riding. Consequently the package has never been delivered. The express charges on this box, weight 5 pounds, were $3 United States gold. If sent by parcel post, the delivery in Acapulco would have cost only 60 cents.

Still another case. A box was sent by express instead of by mail, as instructed, to Guaymas and thence to Acapulco by one of the monthly steamers. This routing cost $4 United States gold and arrived six weeks after shipment, while if it had been sent by parcel post it would have been delivered in ten days for 60 cents postage. These goods were also very badly packed in a box much larger than required. If properly packed in a small package, the postage would not have been over 24 cents.

Many American exporters seem to be ignorant of the parcel-post convention with Mexico, by means of which a considerable trade could be built up, especially with smaller towns.

A complete list of the importers and merchants of Acapulco, which is forwarded [copies of which may be obtained from the Bureau of Manufactures], comprises all who are engaged in a general mercantile business, except where otherwise stated, and carry a general line of clothing, cotton, and woolen goods, shoes, hardware, food products, wines, beer and whisky, furniture, and house furnishings, etc.

SWITZERLAND.

REGULATIONS GOVERNING THE SENDING OF PARCELS BY POST.

Consul Thomas B. Keene, of Geneva, furnishes the following information concerning the parcels post of Switzerland, weights and money being reduced by the consul from metric weights and francs to their American equivalents:

The following are the regulations governing the receipt and transmission of letters, packages of papers, business papers, small parcels, closed or not closed, provided the latter are not considered samples or printed matter, up to a weight of 250 grams (0.551 pound), to and

from points in Switzerland: Within 6 miles, 0.9 cent; farther distances, 1.9 cents. Register fee, 1.9 cents.

Regulations and tariff governing the exchange of parcels sent by post as parcels, from one point to another in Switzerland, divide matter into two classes. Parcels weighing less than 44 pounds pay the same tariff regardless of distance, running from 2.8 cents per 1.1 pound, prepaid, up to 28.9 cents for 44 pounds, prepaid. Unprepaid charges are higher.

Parcels weighing over 44 pounds pay according to distance, which is divided into four sections, viz, 62 miles, 124 miles, 186 miles, and over 186 miles. The charges run as follows: For 44 to 45 pounds, 29 cents, 58 cents, 87 cents, and $1.16 for the respective section distances, and for 121 to 132 pounds, 69 cents, $1.39, $2.08, and $2.78 for respective section distances. If postage is not prepaid, 9.6 cents more. Transportation charges on C. O. D. parcels must be prepaid.

Parcels weighing over 132 pounds are received exceptionally for localities other than where mail is delivered by foot messengers or on mule back, for every 11 pounds or fraction thereof, according to the following tariff: Section 1, 5.80 cents; section 2, 11.6 cents; section 3, 17.4 cents; section 4, 23 cents.

Postal packages may be insured at rates running from 0.9 cent for a package valued at $19, to 8.6 cents for one valued at $580.

PARCELS POST TO THE UNITED STATES.

Switzerland is not on my list of countries having a parcels post convention with the United States; yet in the Swiss tariff it is shown that parcels may be sent to the United States, with two declarations for customs as to contents, weight, and value, as follows: Via Basle and Havre; via France and England; via France direct, and via Bremen or Hamburg direct.

The following is the schedule via Basle and Havre, the other routes being somewhat more expensive:

Destination.	2.9 pounds.	6.6 pounds.	11 pounds.
New York City and vicinity:			
Ordinary articles	$0.23	$0.31	$0.46
Cumbersome articles	.41	.63	.92
All other parts of the United States:			
Ordinary articles	.42	.65	.79
Cumbersome articles	.61	1.06	1.50

Declared value unlimited, taxed 15.4 cents per $58. For American localities and possessions it is possible to send by post, via Parrentruy (Switzerland) and London, parcels not exceeding 4.4 pounds, with one customs declaration, at a cost of about 72 cents. Parcels must not be sealed, and must be easy to open and reclose.

AUSTRIA.

USE OF THE INTERNATIONAL REPLY COUPONS ADVISED.

Consul Joseph I. Brittain calls attention to the importance of sending prepaid postage for replies in addressing concerns abroad. He writes from Prague, Austria:

The American business man seeking export trade should be more *careful* when writing for information to a foreign country when he

initiates the correspondence. He should see to it that every letter to a foreign business firm contains postage sufficient for a reply. These matters appear small to some of our business men, who appear to find it difficult to distinguish between home and foreign business methods.

Since the adoption of the international reply coupon every obstacle has been removed. It is surprising, however, to notice how few of these coupons are inclosed in foreign letters. In 75 per cent of the letters requiring a response no postage is inclosed, while many of the letters contain American postage stamps, which are practically worthless to the average foreign business man.

Since the increased weight allowance for foreign letters became effective there are not so many penalty postage letters.

UNITED KINGDOM.

BRITISH MAILS CLOSED TO LETTER LABELS RESEMBLING POSTAGE STAMPS.

Consul H. S. Culver, of Cork, reports that a notice, of which the following is a copy, has been posted in all the post-offices in the United Kingdom:

The practice has recently been adopted by some persons of affixing to the covers of letters adhesive labels, somewhat resembling postage stamps, which are used for advertising or other purposes. Although these labels are obviously not issued with any intention of defrauding the revenue, their use on postal packets, especially when they are placed on the address side, causes embarrassment to the officers of the post-office, and gives rise to delay in the treatment of other correspondence. In these circumstances the postmaster-general has deemed it necessary to issue instructions that after July 31 any letter or other packet observed in the post bearing on the front a private label in any way resembling a postage stamp shall be returned to the sender.

COMMUNICATION WITH THE WORLD GREATLY CHEAPENED.

The annual report of the British postmaster-general for the year ended March 31, 1908, shows many improvements in the service. Reference is made to the reduction of letter postage to the United States to 2 cents per ounce and the increase in the maximum weight of parcels which may be sent to this country from 4 pounds 6 ounces to 11 pounds, both of which recently went into effect.

In October, 1907, the unit of weight for outward foreign and colonial letters was raised from half an ounce to 1 ounce, and the postage on foreign letters for each unit after the first was reduced from 5 to 3 cents. Thus, for example, a letter weighing 2 ounces, addressed to a foreign country, can now be sent for 8 instead of 20 cents, and a letter of the same weight addressed to a British colony can be sent for 4 instead of 8 cents.

The following amount of mail was handled for the last fiscal year:

	Number.	Increase.	Average number for each person.
		Per cent.	
Letters	2,863,900,000	2.1	64.8
Post cards	858,300,000	3.2	19.4
Half-penny packets	940,600,000	.8	21.3
Newspapers	199,800,000	5.7	4.5
Parcels	109,470,000	4.4	2.5
Total	4,972,070,000	2.2	112.5

The imperial postal-order scheme has been extended to northeastern Nigeria and to northern Rhodesia, and now comprises practically

the whole of the British Empire with the exception of Canada and Australia.

The total number of postal orders issued during the year (including those issued abroad) was 125,264,000, representing an amount of $217,727,000, an increase of 22.5 per cent in number and 9.1 per cent in amount, as compared with the previous year.

CHINA.

ACTIVE EXTENSION AND USE OF MAIL SERVICE THROUGH THE EMPIRE.

In reporting that the returns of the Imperial maritime customs of China for 1907 shows that there are 2,803 working post-offices and postal agencies in China, showing an increase of 707 over the year 1906, Consul J. C. McNally, of Nanking, has summarized the returns as follows:

The business of the postal service has increased over 50 per cent, the receipts over expenditures being correspondingly larger. Much of this increased business is due to the railway development of China, particularly that forming a connection with the Trans-Siberian route, which accelerated European communication so that London letters reach Peking in sixteen days.

The division of the lower Yangtse comprising the provinces of Anhui, Kiangsu, and Chekiang, with a combined population of about 60,000,000, shows an addition of 65 post-offices; the total being 387. Nanking, Chinkiang, and Wuhu join in this general increase. The report says:

Postal articles—letters, post cards, newspapers, etc., which had risen from 76,000,000 in 1905 to nearly 113,000,000 in 1906, show a further increase during the current year of 50 per cent, and total no less than 167,000,000. Parcels carried have risen from just over 1,000,000 in 1905, and 1,383,000 in 1906, to 1,917,000 of an average weight of 3 kilos (2.2 pounds to the kilo) each in 1907, while money orders issued, which represented a value of $1,230,000 in 1905 and of $2,399,000 in 1906, have further risen to $3,375,000.

A tabular statement of density of population and number of letters sent by each thousand of the inhabitants in each province follows:

Province.	Population.[a]	Population per square mile.	Number of articles dispatched.	Number of articles dispatched per 1,000 of population.
Anhui	23,672,000	432	1,245,000	53
Chehkiang	11,580,000	310	1,810,000	156
Chihli	20,930,000	180	9,307,000	445
Fuhkien	22,870,000	492	1,381,000	61
Honan	25,318,000	373	2,463,000	97
Hunan	22,169,000	265	728,000	33
Hupeh	35,280,000	495	2,097,000	59
Kansu	10,386,000	82	(b)	19
Kiangsi	26,532,000	382	707,000	27
Kiangsu	23,980,000	620	19,247,000	807
Kuangsi	5,142,000	66	16,000	3
Kuangtung	31,865,000	318	5,469,000	172
Kueichou	7,650,000	114	38,000	5
Manchuria	8,500,000	23	2,185,000	27
Shansi	12,200,000	149	762,000	62
Shantung	38,248,000	683	1,924,000	50
Shensi	8,450,000	112	(b)	19
Suchuan	48,725,000	314	641,000	13
Yünnan	12,722,000	86	256,000	20

a From Richard's Geography of the Chinese Empire.

b Kansu and Shensi, 365,000.

PATENTS IN THE UNITED KINGDOM.

UNIFORMITY OF LAWS.

INQUIRY LEADING UP TO COMMON PLAN FOR BRITISH EMPIRE.

According to Consul Albert Halstead, of Birmingham, it is stated that a committee consisting of representatives of the British colonial office, the British Board of Trade, the British patent office, and other departments concerned will be appointed this autumn to inquire into the question of uniformity in the granting and protection of trademarks and patents within the British empire, which was one of the subjects discussed at the colonial conference last year. This committee will endeavor to ascertain the views of the self-governing colonies on this question. Among other matter, it is reported that the committee will discuss the effect of the new British patents act upon Canadian manufacturers and the validity of patents in both countries.

BENEFIT TO IRELAND.

NEW LAW ENCOURAGES MOVEMENT TO SECURE FACTORIES.

Consul Henry S. Culver, writing from Cork, tells of the movement in the south of Ireland, based on the new patent law, to secure manufacturing industries:

It is authoritatively reported that some 70,000 patents are affected by the British patent act which came into effect on August 28, and in view of that fact the municipalities of the south of Ireland, through their commercial and industrial associations and labor organizations, are strenuously moving toward inducing foreign patentees to establish manufacturing plants at convenient ports in the south of Ireland; to this end the agricultural department of Ireland is lending its powerful influence to aid the movement. It is pointed out that Cork is perhaps one of the most desirable places for the establishing of such factories in Ireland by reason of its great harbor and water front, its cheap labor, and its transportation facilities.

At a meeting held in the city of Cork on September 1, which was largely attended by the influential men of the south of Ireland, it was resolved to offer the most flattering inducements to foreign patentees to locate in this city. The inducements pertain to cheap labor, immunity from taxes for a long period, cheap fuel, and the minimum of cost for transportation.

SCHEDULE OF CHARGES.

PRESENT COST OF TAKING OUT AND SUSTAINING A PATENT.

Special Agent Roland R. Dennis, in a report some months ago on the new British patent law, furnished the maximum schedule of fees which may be charged. It may be stated, however, that on December 17, 1907, and prior to the going into effect of the new law, D. Lloyd-George, the president of the board of trade, issued the patent rules in accordance with the new law and fixed the renewal fees at the same amounts which have prevailed in the United Kingdom for a number of years, to wit, £5 (£1=$4.86) at the end of the fourth year and annuities for subsequent years increasing at the rate of £1 per year.

A complete schedule of the charges now made by the British patent office follows:

Classification.	£ s.	Fee. £ s.
1. On application accompanied by provisional specification	1 0	
2. On filing complete specification thereafter	3 0	
		4 0
3. Or on application accompanied by complete specification		4 0
4. On appeal from comptroller to law officer: By appellant		3 0
5. For extension of time under rule 16:		
Not exceeding one month		2 0
Not exceeding two months		4 0
Not exceeding three months		6 0
6. For extension of time for leaving complete specification not exceeding one month		2 0
7. For extension of time for acceptance of complete specification:		
Not exceeding one month		2 0
Not exceeding two months		4 0
Not exceeding three months		6 0
8. On notice of opposition to grant of patent: By opponent		0 10
9. On hearing by comptroller: By applicant and by opponent, respectively		1 0
10. On sealing of patent		1 0
11. For extension of time for sealing of patent, where period allowed for the sealing of the patent will expire after the commencement of the act:		
Not exceeding one month		2 0
Not exceeding two months		4 0
Not exceeding three months		6 0
12. For extension of time for sealing a patent, where period allowed for the sealing of the patent has expired before the commencement of the act		10 0
On certificate of renewal:		
13. Before the expiration of the fourth year from the date of the patent and in respect of the fifth year		5 0
14. Before the expiration of the fifth year from the date of the patent an l in respect of the sixth year		6 0
15. Before the expiration of the sixth year from the date of the patent and in respect of the seventh year		7 0
16. Before the expiration of the seventh year from the date of the patent and in respect of the eighth year		8 0
17. Before the expiration of the eighth year from the date of the patent and in respect of the ninth year		9 0
18. Before the expiration of the ninth year from the date of the patent and in respect of the tenth year		10 0
19. Before the expiration of the tenth year from the date of the patent and in respect of the eleventh year		11 0
20. Before the expiration of the eleventh year from the date of the patent and in respect of the twelfth year		12 0
21. Before the expiration of the twelfth year from the date of the patent and in respect of the thirteenth year		13 0
22. Before the expiration of the thirteenth year from the date of the patent and in respect of the fourteenth year		14 0
23. On enlargement of time for payment of renewal fees—		
Not exceeding one month		1 0
Not exceeding two months		3 0
Not exceeding three months		5 0
24. On application for restoration of a lapsed patent		20 0
25. On notice of opposition to application for restoration of lapsed patent		1 0
26. On hearing by comptroller, by applicant and by opponent, respectively		1 0
27. On application to amend specification—		
Up to sealing, by applicant		1 10
After sealing, by patentee		3 0
28. On notice of opposition to amendment, by opponent		0 10
29. On hearing by comptroller, by applicant, and by opponent, respectively		1 0
30. On application to the board of trade for a compulsory license, by person applying		1 0
31. On opposition to grant of compulsory license, by opponent		1 0
32. On application to comptroller to revoke a patent under section 26		2 0
33. On hearing by comptroller: By applicant and by patentee, respectively		2 0
34. On offer to surrender a patent under section 26		1 0
35. On hearing by comptroller: By applicant and by opponent, respectively		1 0
36. On application under section 27 to comptroller to revoke a patent worked outside the United Kingdom		2 0
37. On hearing by comptroller: By applicant and by patentee, respectively		2 0
38. For altering name or address for service in register		0 5
39. For entry of two addresses for service in register		0 5
40. On request to enter name of subsequent proprietor in the register of patents		0 10
41. On request to enter notice of interest in the register of patents		0 10
42. On request to enter notification of a document in the register of patents		0 10
43. On request to comptroller to correct a clerical error:		
Up to sealing		0 5
After sealing		1 0
44. For certificate of comptroller under section 78		0 5
45. For duplicate of letters patent		2 0
46. On notice to comptroller of intended exhibition of an invention under section 45		0 10
47. On notice of order of court for amendment of specification or rectification of register		0 10
48. On postal request for printed specification		0 1
49. Search or inspection fee		0 1
50. For office copies, every 100 words (but never less than 1 shilling)		0 1
51. For office copies of drawings, cost according to agreement.		
For certifying office copies, manuscripts, or printed, each		0 1

FAILURES IN CANADA.

STATISTICS OF BUSINESS INSOLVENCIES COMPARED WITH LAST YEAR.

Consul Franklin D. Hale, of Charlottetown, has prepared the following summary of business failures in Canada this year:

Insolvencies in Canada during the first nine months of 1908 numbered 1,221, with liabilities of $11,826,386. The same period of 1907, the failures numbered 870, with liabilities of $8,000,128. In 1908 there were 324 manufacturing failures, with liabilities of $4,924,857, as against 249 in 1907, with liabilities of $4,022,062. In 1908 the trading failures numbered 864, with liabilities of $6,263,857, as against 603 in 1907, with liabilities of $3,676,716. Other commercial failures in 1908 numbered 33, with liabilities of $639,672, as against 18 in 1907, with liabilities of $301,350. Included in this list for 1908 were two bank failures, with liabilities of $2,137,224. The total available assets in the 1,221 cases in 1908 was $9,436,815; in the 870 cases in 1907, $5,919,854. The 1,221 failures of the first nine months in 1908 are divided among the several provinces as follows: Ontario, 456; Quebec, 478; British Columbia, 15; Nova Scotia, 54; Manitoba, 75; New Brunswick, 28; Prince Edward Island, 5; Alberta, 110. This large increase is the product of last year's financial difficulties rather than any conditions which belong especially to 1908.

The banks of Prince Edward Island are branches of the leading Dominion banks. They now report that funds are abundant and demand for loans less than a few months ago. People are not at present making new business ventures or anticipating much for the immediate future. The majority of the people are conservatively content with moderate profits, not caring to risk more with the possibilities of gain or loss.

EDUCATIONAL PROGRESS.

CHINA.

EXTENSION OF SCHOOL SYSTEM—TECHNICAL INSTRUCTION.

Consul Thomas E. Heenan, of Newchwang, furnishes the following notes from newspapers published in China in reference to the educational movement which is developing in many lines in Fengtien or Shingking Province of Southern Manchuria:

The educational affairs of Fengtien Province have been taken up by the Viceroy Hsu and others with great energy and effort in encouraging the people to extend its development. The nistry of Education at Peking finds that in the Province of Fengtien o tl than 1,450 schools of primary and middle clas Government and people, not including the schools or The Ministry of Education is inquiring into the sistence of these schools, so as to test their actual

With reference to the matter of requesting the o ment by the educational parties in combinati parties at Mukden, it is now heard that the comm accepted from the headquarters of the Educati registry which have been distributed among mittees of their respective districts. Any per a member is r ue ed to put his name, place or

on the register in his own handwriting. All merchants hearing this were exceedingly glad and rapidly came forward to join, a number of about 10,000 names being registered at one time. From this it can be seen that the people of the Fengtien province have made great progress.

SCHOOLS FOR AGRICULTURE AND FISHING INDUSTRY.

Recently it has been learned that Viceroy Hsu, deeming the improvement of agriculturists to be an important matter for the three eastern provinces, decided to raise a fund for establishing an agricultural school, to enroll students from various provinces, and engage two American teachers to give the instruction. The construction of the buildings will be started as soon as the site has been selected.

People residing along the coast of Fengtien Province live mostly from the work of fishing. A fishing industry bureau was therefore established some time ago at Newchwang so as to give protection to the fishermen. It is now heard that the Viceroy Hsu had memorialized the Throne, requesting that schools for teaching the marine industry be established at the seven places of Siu-yen, Hai-cheng, Kai-ping, Yingkou (Newchwang), etc., along the coast, that children of the fishermen may enter such schools to study the theoretical and practical work relating to marine industry, that the method of fishing may be improved in future, and the interest of the marine industry fully assured.

It has been sanctioned by the Throne and it is to be hoped that the fishing industry of the Fengtien Province will be greatly improved in the near future.

BRITISH INDIA.

PLAN FOR INSTITUTING SCHOOL OF COMMERCE IN BOMBAY.

Consul-General William H. Michael, in the following report from Calcutta, tells of the effort in India to provide for higher commercial education:

On March 26 a letter was addressed by the Government to the mercantile bodies in Bombay Presidency regarding the proposed scheme for the award of a scholarship for higher commercial education at the English universities. It was suggested that the curriculum should include: (1) Commercial geography of the world in general and India and the Indian seas in particular; (2) currency and banking; (3) control of labor; (4) exploitation of markets; (5) theory of railway rates and connected branches and railway economics; (6) general theory of application of power; (7) commercial law and wages. It was urged that such a course could not be obtained in its entirety in the commercial sections of modern English universities. Under the circumstances the Government thinks it desirable that a School of Commerce should be established in Bombay, and that it would give better results than the English scholarship system, and suggests that if interest is taken in the experiment it may eventually lead to the establishment of a chair of commerce in one of the Government colleges.

It is proposed to invite Professor Lees-Smith, of the London School of Economics and Political Service, to deliver lectures in Bombay next cold weather at a cost of $2,250, admission to the lectures to be free. Commercial opinion is invited by the Government on the plan.

SPAIN.

INSTRUCTION FOR POLICEMEN, ARCHITECTS, AND MARINE CAPTAINS.

Consul-General Frank D. Hill, of Barcelona, Spain, supplies the following notes on special municipal schools which are provided in Spain:

A novel enterprise for Spain, a school for the police of the city, has just been opened in Barcelona. Classes will be taught photography and anthropometry, legislative ideas, practical police work, gymnastics, and the French, English, Italian, and German languages. Aspirants to places on the police force will be received up to 50 in number. The course in the Superior School of Architecture, a municipal enterprise, also began its sessions at Barcelona the middle of September. Matriculation at the Nautical School also began in September. The subjects taught, leading to the career of captain in the merchant marine are: Algebra up to equations of the second degree, inclusive; progressions and logarithms, physical and political geography, lineal drawing, plane and spherical geometry, trigonometry, and elements of topography, geographical drawing, applied physics, cosmography, pilotage and navigation, and hydrographic drawing.

LIFE INSURANCE IN MEXICO.

NEW BILL FOR THE CONTROL OF COMPANIES OPERATING IN REPUBLIC.

The late Consul-General Benjamin H. Ridgely, of Mexico City, furnished the following information concerning a bill for the organization and control of life insurance companies introduced in the Mexican Chamber of Deputies on May 26, at the instance of the Secretary of the Treasury:

This bill should be of great interest not only to insurance companies but to laymen and legislators all over the United States, and for that reason a translation thereof has been forwarded.

The proposed law seems to be objectionable to the local representatives of the American companies, who will prepare a formal protest to be presented in due time to the Mexican Government. One of their principal objections is to the provision which obliges them to invest their total reserves in the manner as prescribed by articles 28 and 29 of the bill; and furthermore that this provision is retroactive and concerns reserves existing prior to the passage of the bill.

TEXT OF THE PROPOSED LAW.

The text of articles 28 and 29 is as follows:

ARTICLE 28. The total amount of reserves, whether of national or foreign companies, shall be invested in the following securities or operations: (1) Bonds or certificates of the Mexican Government and those which in their capital or interest are guaranteed by the same; (2) bonds of foreign governments or guaranteed thereby which are capitalized on the stock exchanges where they are quoted at 4½ or less; (3) bonds of the states or municipalities of the Republic capitalized at 5 per cent or less; (4) mortgage bonds and scrip issued by banks under federal concession; (5) shares or obligations of national or forign companies, whether of mining or insurance, provided these securities are quoted on any of the domestic or foreign markets and which shares shall have yielded a dividend or which obligations shall have yielded interest with

due regularity, at least for five years previous to the date of their acquisition; (6) loans on pledge security of the bonds or securities to which the foregoing five sections refer, for an amount not to exceed two-thirds of the market price; (7) loans with security of its own Mexican policies, which shall not exceed in any case the mathematical reserve of premiums of the policy pledged; (8) mortgage loans which comply with the conditions set forth in articles 44–49 of the Law on Credit Institutions, but on the understanding that the loan shall be made on security of property yielding a permanent income at least 10 per cent of the amount loaned.

ARTICLE 29. More than a third of the reserves can not be invested in foreign securities, nor more than the same proportion in real estate or actual rights (choses in action). The credit securities and bills for which any single debtor shall be responsible shall not exceed 10 per cent of the reserves, excepting where securities of the public federal debt of those guaranteed by the Federation are concerned which shall be allowable up to one-half of said reserves. Nor can the amount invested in shares of stock companies exceed 10 per cent, whatever be the number or nationality of same.

It is announced that one of the best known of the American companies has closed, or is about to close, all of its branch offices in the Republic with the intention of maintaining offices in Mexico City alone. It is also stated that another American company which had declared its intention of centralizing all of its Latin-American business in Mexico will not do so if this bill becomes law, as it is likely to do at the next session of the Mexican Congress. One very acceptable feature of the bill is the provision reducing the tax on premiums from 2 and 3 per cent to 1 per cent.

[A statement of the attitude of the Government in support of the bill as expressed by the Secretary of the Treasury, also a copy of the bill itself, are filed for public reference at the Bureau of Manufactures.]

MINES AND MINERALS.

COAL TRADE.

PHILIPPINES.

COAL DEPOSITS AND VALUE OF ISLANDS' FUEL.

Provincial government officers in the Philippines, in their last annual reports, make references to deposits and mining of coal in their respective regions, among which may be noted the following:

The lieutenant-governor of the subprovince of Abra, with headquarters at Bangued, states that there are two coal mines in that region, one at Bacooc, in the township of Lagangilang, and the other at Mount Tayab, in the municipality of Bangued. The governor of Sorsogon states that in that province the deposits of minerals consist of coal, marble, gypsum, and sulphur. The provincial governor of Surigao reports that coal is found in Sinagahain, Banacan, and Taga, Tandag; in Bislig, Hinatuan; and in Loreto, Dinagat. The governor of Zambales, writing from Iba, says that the mineral wealth of that province if exploited would put the country in good condition financially. There are valuable mineral deposits in its soil which have already been located and recorded in the office of the provincial secretary—there being coal, silver, gold, etc.

The governor of the province of Albay describes the development of the coal deposits of that section as follows:

The coal deposits of the island of Batan have come into no little prominence only recently, and it would be remiss not to advert to the subject. Coal is being mined in Batan and ships are being coaled therefrom. A mine on the coast owned and operated by private parties is producing, it is reliably reported, 70 tons per day, and merchantmen, coast-guard cutters, and other craft to the number of 22 are buying the coal they consume from this mine, which is giving satisfaction.

Up to the present time coal mined in Batan is of the surface variety, but as the tunneling progresses beyond, the quality becomes better, and ere long it should be, as tests heretofore made determine it to be, the equal, if not the superior, of Australian and Japanese coals.

In some respects it is unlike any other bituminous coal, if it may be thus classified. It reduces to a fine white ash under heat, forms no clinkers, and vapor rather than smoke escapes from its combustion. It has to be used differently from any other coal, and should be banked in the furnace and kept banked; under no circumstances should it be stoked. The furnace, furthermore, should be provided with fine grate bars close together.

COMPARISONS WITH OTHER COAL—DEVELOPMENT PROSPECTS.

Its cleanliness, cheapness, and tremendous heating capacity commend it to mariners especially, and in time it is confidently thought bunkers will require no more space for a supply of Batan coal for a voyage of any particular number of days than is now required for Australian coal, the difference at present being about 20 or 25 per cent against Batan coal, which difference is more than made up in the low cost of Batan coal, the same being furnished on board ship at $3.25 gold per ton. Compared with Japanese coal, 10 per cent less in bulk is required for steaming any given number of days, the strongest imaginable argument why there should be no delay in making arrangements to coal

transports from the Batan mines when the military branch of the government shall be ready to do so from its reservation, and meantime from existing mines, if their output be sufficient.

As the outlook for the development of Batan coal into an industry of considerable magnitude, it should be accorded the hearty encouragement of the civil branch of the government and should not suffer from indifference. The coal-claim law should be amended so that the outlay of a large amount of money by individuals or companies to perfect a claim would not be necessary. A claim in the island of Batan contains 64 hectares (hectare=2.47 acres). To secure a patent, the charge is $3,200, or $1,600 gold, depending upon the distance the director of public lands may hold Legaspi, the nearest port, is from the claim sought to be perfected. In either case the cost is too high to induce persons to explore and develop. There are outcroppings throughout the island, it is true, but the best stratum of the coal is far below the surface, necessitating shafting, with investment in costly machinery, and not every hole sunk will locate veins that will prove facile and profitable.

The Government through its branches expends a great deal of money annually for coal, and all of this money is sent out of the country. If it shall be kept here it will constitute no small contribution to the era of prosperity so long promised and so patiently waited for by Filipinos and Americans alike.

MEXICO.

OUTPUT OF THE COAL MINES OF THE REPUBLIC.

Consul Clarence A. Miller, of Matamoros, furnishes the following information concerning the coal mines and coal trade of Mexico, derived from an interview with a leading coal operator, published in a Mexican newspaper:

The proved coal fields of the Republic cover 300,000 acres. The minimum production is fixed at an average of 3,000 tons per acre, although in numerous cases it will run as high as 4,000 and 5,000 tons.

The coal companies of Mexico find themselves confronted by a condition that makes it difficult for them to operate outside of a small and limited territory. The duty charged on shipments of coal and coke entering the United States makes it impossible for them to market any of their product there, and, on the other hand, in northern Mexico, the national market for the product of their mines, they are met by coal and coke which are sold as a surplus from the mines of the United States and shipped to Mexico by steamers and barges, no little of it coming in as ballast, and all of it reaching the ports of the Republic at a low rate of freight charges. It comes in duty free and is hauled from Tampico and Monterey and other points in northern Mexico at a lower rate per ton per kilometer than is charged to the same points from the mines in Mexico.

It is considered by the operators of the coal mines of Mexico that their large investments ($20,000,000) should receive some protection which is summarized as follows:

It would not be advantageous for Mexico to impose any duty on coal or coke, as it would seriously cripple many consumers who live and operate plants on the west coast as well as other points in Mexico impossible to be reached by the native products, but the railroads should protect the territory in the immediate vicinity of Mexican mines from foreign coal and coke by making the rates at least as high per kilometer as is charged from native mines to such points. The railroads claim that it is impossible to make any reduction on the rates on coal and coke from the mines to the different points of consumption in Mexico, and that the rates on foreign coal and coke from

Veracruz and Tampico to interior points were originally too low. It is therefore asked by the Mexican mine owners that the rates on the foreign products be increased.

COSTA RICA.

COAL AND KEROSENE TRADE IN THE REPUBLIC.

Consul John C. Caldwell, of San José, furnishes the following information concerning coal and kerosene in Costa Rica:

Neither coal nor kerosene is produced in Costa Rica. At Punta Arenas, the port of this district, the Government keeps a small deposit of coal for the use of its railways; it is not sold in open market, and the deposit is not more than 100 tons.

Kerosene is sold by merchants in retail quantities, but the supply on hand is never large. Very little, if any, gasoline is sold.

UNITED KINGDOM.

SMOKE AND DUST UNNECESSARY IN THE CONSUMPTION OF COAL.

Consul J. N. McCunn, of Glasgow, furnishes the following information concerning the waste in coal consumption and the prevention of smoke and dust, as recently presented to his associates by the chairman of the Glasgow and West of Scotland Technical College:

The more recent knowledge on these subjects showed that in most cases smoke and dust were quite unnecessary concomitants of industry, and the investigations of the recent royal commission on coal supplies has clearly shown that the present inefficient consumption of coal in Great Britain leads to a waste of from 40,000,000 to 60,000,000 tons per annum, and is also responsible for the greater proportion of smoke and dust from which they suffer. Thirty per cent of the total British consumption of coal might be saved by employing the best known means for each purpose.

The education of specialists for the particular branches of industry prevailing in the district was the paramount duty of the Technical College, and as these industries, each and all, are impossible without the combustion of coal for the production of heat, light, and power, the college in dealing with the subject might advance the general welfare of the district and simultaneously open new channels of employment for students and associates.

The slow rate of progress the reform was making could to a great extent be accounted for by the fact that the reform demanded an amount of expert skill and knowledge which should not be expected from men whose time and energies were fully occupied in the work of their special branches of industry. Special experts were needed if the reform was to be effected within a reasonable time, and education of experts of that class brought before the college an important work.

Since the opening of the laboratories in connection with the chair of chemistry, systematic instruction had been carried out on the methods used for the scientific control of the combustion of coal and the economical utilization of heat in factories. Members of the staff of several prominent industrial concerns in the district had taken advantage of the instruction given in these methods as well as the regular students of chemistry, metallurgy, and engineering, who considered these instructions as necessary parts of their curriculum.

RUSSIA.

NEW SOURCES OF SUPPLY—STATISTICS OF PRODUCTION AT MINES.

Consul James W. Ragsdale, of St. Petersburg, supplies the following information in regard to coal in Russia:

Great coal deposits have been discovered near Cheremkovskoye on the Trans-Baikal Railway. The quantity has not yet been determined, but judging from the preliminary prospecting it is supposed that there are at least 600,000,000 poods (pood=36.11 pounds). The coal has quickly become popular in that region. Orders are coming in from various quarters. Several big coal dealers are about to form a syndicate. At the present time coal for the Trans-Baikal Railway is being furnished by the Cheremkovskoye pits, but as soon as their contract expires, the new Trans-Baikal Syndicate will deliver the coal. The Cheremkovskoye coal men, who have also formed a syndicate, will furnish coal for the Siberian Railway. According to a mutual agreement these syndicates will handle 105,000,000 poods of coal (the Trans-Baikal Syndicate 25,000,000, and the Cheremkovskoye 80,000,000 poods). This appears to place the Trans-Baikal Railway in rather a difficult position, as no coal can be obtained except from the syndicates, unless it be from the Shchalainar pits, which belong to the Chinese Eastern Railway.

The council of the Association of South Russian Miners is publishing a book on "The Russian coal industry in 1907." It will consist of four parts, the first two embracing the coal industry in southern Russia, the third the same branch of industry in the Urals, the Eastern, Moscow, and Caucasian mining regions, and the fourth general information on this subject throughout the Empire. The first issue has just been published and contains the following verified data: The supply of mineral fuel at the mines decreased from 63,180,000 to 52,690,000 poods, or 17 per cent; whereas the output in 1907 increased 129,150,000 poods over 1906. The supply of available coke decreased 530,000 poods, while the output increased 4,530,000 poods. The export of mineral fuel has also increased. The eastern and western parts of the Donetz basin have increased their export of coal by 17 per cent, of anthracite by 25 per cent. and of coke by 8 per cent.

CANARY ISLANDS.

FREIGHTS RENDER IMPORTS OF AMERICAN COAL UNPROFITABLE.

Consul Solomon Berliner, of Teneriffe, furnishes the following information concerning the traffic in coal at the Canary Islands:

The coal trade of the islands is very considerable, the ports of Las Palmas and Santa Cruz being largely used by passing steamers for bunkering. The shore consumption is insignificant, as there are no large factories, but increasing quantities are being used for domestic purposes, and for small pumping engines, the number of which is constantly increasing. The importation is confined to the best qualities from South Wales. Very seldom is there any imported from Newcastle.

There are five English and one German coaling firms established at Las Palmas, Grand Canary, and three English firms at Santa Cruz de Teneriffe. The Spanish Government has just granted a conces-

sion to a German firm for the establishment of a coal depot at Teneriffe.

The imports into the two islands in 1907 amounted to 681,000 tons. Current prices are as follows: Contracts, $6.70; casuals, $7.50.

The importation of American coal is rendered prohibitive by reason of the high freights from the United States. Freights from Cardiff are at present about $1.45 per ton of 2,240 pounds.

BRITISH INDIA.

RAILWAY OWNERSHIP OF COUNTRY'S MINES.

Consul-General William H. Michael, of Calcutta, reports that the Secretary of State for India (Mr. Morley) has received a memorial from the Indian Mining Association which is averse to railway proprietorship of coal fields. The memorial will be submitted for the views of the government of India, which, when received, will largely determine his answer. It is understood that the secretary at this time does not see any objection to the principle of the railways owning coal properties solely for their own consumption.

MINING OPERATIONS.

UNITED KINGDOM.

ACCIDENTS TO PERSONS EMPLOYED IN MINES AND QUARRIES.

Consul-General Robert J. Wynne, of London, furnishes the following information, derived from recently published official reports, relating to persons employed and accidents at mines and quarries in the United Kingdom last year:

The total number of persons employed at mines and at the quarries of the United Kingdom during 1907 was 1,060,034. Of the 972,220 persons employed at mines, 776,456 worked underground and 195,764 above ground. Of the latter, 5,864 were females. Compared with the preceding year there was an increase of 49,093 males working underground, and an increase of 10,374 males and of 177 females working above ground, making a total increase of 59,644 persons, the largest increase ever recorded in a single year. Of this increase, 97 per cent occurred at coal mines. At all other mines there was an increase of 1,710 males and a decrease of 11 females.

In and about quarries 87,814 persons were employed during 1907. Of this total, 55,894 persons worked inside the actual pits, holes, or excavations, while 31,920, including 25 females, were employed at factories and workshops outside. Compared with 1906 the figures show decreases of 2,491 and 1,211 persons employed inside and outside quarries, respectively.

As regards accidents, 1,283 separate fatal accidents occurred in and about the mines and quarries of the United Kingdom, causing a loss of 1,368 lives. Compared with the previous year, there is an increase of 93 in the number of fa accidents and of 93 in the number of lives lost. Of the 1,283 rate fatal acci , 1,195, causing the loss of 1,279 lives, hap t loss of 89 lives, happened at quarri explosions of fire damp or coal d uries

to 238 persons. Of these explosives, 160 were caused by naked lights, 8 by safety lamps, 13 by explosives, and 3 by miscellaneous or unknown causes. Of the latter, one was supposed to be caused by an uninclosed electric motor and one possibly by the breakage of an electric lamp in a shaft. It is pointed out that so long as mines, which occasionally produce fire damp, are worked with naked lights, explosions will continue to occur, and that the existing rules are inadequate to prevent them. In classifying the accidents in mines according to place and cause, the report shows that nearly 46 per cent of the deaths were due to falls of ground, 31 per cent to miscellaneous causes underground, 3.2 per cent to explosions of fire damp and coal dust, 8.1 per cent to shaft accidents, and 11.7 per cent to surface accidents.

SCIENTIFIC MINING SCHOOL FOR WORKERS.

Consul Albert Halstead, of Birmingham, reports that a new educational experiment is to be tried in the instruction of British miners by the Staffordshire county council at Hamstead. The purpose of this school is to furnish opportunity to miners to acquire scientific and other training in connection with mining, which will prepare them for higher positions in mines, for which they are unfitted, despite their practical experience and knowledge of mining, because of the lack of scientific and higher education. While this school is intended especially for miners, workmen in other industries will be afforded opportunity to attend. The results of this experiment will be watched with interest.

TURKEY.

LEAD MINE AT KARA-BOGHA, PROVINCE OF HUDAVENDIGHIAR.

Consul-General Edward H. Ozmun, of Constantinople, furnishes the following information concerning the lead mine at Kara-Bogha, European Turkey:

The mine is in proximity to the mountain called Tchantepe, at an altitude of 2,470 feet. The distance to the port of Kara-Bogha on the Sea of Marmora is nine hours by foot. The road is frequented and in fairly good condition. The port of Kara-Bogha has a wharf to which steamers can moor. The descent of about 25 miles on an easy road is accomplished in one day by ox or buffalo carts capable of carrying easily 1,600 pounds, for which the charge is $2.

The previous owner of this mine made attempts at working at three different points: Dodjia, Kodja-Kovouchlar, and Gumuch-Atcheka, but only at the last-named place have these workings been undertaken seriously, with the result that a rich vein of lead was discovered. The peasants claim that there are besides at a great many points mineral veins, and exhibit samples which certainly come from a rich vein.

Gumuch-Atcheka is the point where the most work has been done. It was worked for a period of four years, although abandoned some fifteen years ago after a falling in, which destroyed some of the extracting plant.

The deposit has been proved to exist over a length of 1,970 feet, and everything tends to show that it extends farther, both east and west of the extreme workings, the geological formation being the

same, and it is considered that with the veins already discovered 50 to 60 tons of mineral could be extracted daily.

The analysis of two samples picked up at the workings, one at Dodjin and the other at Kodja-Kovouchlar, is as follows: Dodjin: Lead, 68.33; zinc, 9; silica, 8; silver, 0.190. Kodja-Kovouchlar: Lead, 71.46; zinc, 7.25; silica, 4.25; silver, 0.199.

There is a concession granted for ninety-nine years for the working of this mine for which an annual rent of $218 has to be paid to the imperial treasury and 5 per cent tax on all mineral extracted. This office will put any interested parties in touch with the present holders of this concession.

MALAY STATES.

DECREASED REVENUE—OUTPUT—CONDITION OF THE INDUSTRY, ETC.

Consul-General Thornwell Haynes, of Singapore, submits the following report covering the mining industry of the Federated Malay States for 1907:

Official figures put the mining revenue from all sources, in 1907, at $5,795,485, a decrease of $318,967, as compared with 1906, due to lower prices of tin and, in some degree, to stocks held for a raise. The revenue collected in the several states of the Federation was: Perak, $3,139,808; Selangor, $1,962,440; Negri Sembilan, $528,808; Pahang, $164,000.

The output of tin was 48,431 tons, consisting of 13,938 tons of block tin and 34,493 tons of tin ore, the former being less by 4,321 tons and the latter exceeding by 30,360 tons the output of the preceding year. The output of tin in the several States was: Perak, 25,679; Selangor, 16,304; Negri Sembilan, 4,427; and Pahang, 1,976 tons.

The fluctuation in the price of tin was exceptionally great. The average local price for 1907 was $813.75 per ton, compared with $855 in 1906. The estimated value of the output was $39,394,962. The number of persons employed in the industry was 231,368, an increase of 18,708, as compared with 1906. The area of land alienated for mining purposes was 278,259 acres, of which 152,394 acres are in Perak, 72,928 in Selangor, 28,395 in Negri Sembilan, and 24,542 in Pahang. During the year Chinese immigrants exceeded emigrants by 48,000.

The exports of gold in 1907 amounted to 15,353 ounces, valued at $2,988,605, of which 14,286 ounces were from Raub.

The official report from which the foregoing statistics are taken says that the year under review opened with great promise, but that the closing months were attended with complete stagnation in all matters relating to mining.

CHINA.

RESOURCES OF MANY MINERALS AND METALS.

Vice-Consul C. L. L. Williams sends from Chefoo the following published account of the mines and minerals of Manchuria, as reviewed by the trade commissioner of New South Wales, Australia:

The whole of the eastern seaboard of Manchuria, as well as portions of the north and northeast, is hilly country, probably 200 miles or more wide on the east, while in the north there is more undulating country in between the moun-

tains. It is reported that gold, copper, silver, and lead exist in large quantities, principally to the north of Korea. An Autralian mining engineer, who has recently visited many parts of Manchuria, stated that he was then on his way to bring a party of English mining experts to examine undeveloped country in the southeast, to the north of Korea, and on the watershed of the Yalu. As to whether the minerals were as rich as represented, he stated that many of the mining concessions were overestimated; at the same time the future was likely to reveal great developments.

Under settled conditions it would appear that prospects are very encouraging and that Manchuria will yet produce a vast amount of gold, silver, lead, and copper. The gold so far obtained is from the alluvial deposits, principally in the far north and on the Amur and Sungari rivers, and is spoken of as fairly coarse, but not found in large nuggets.

Iron, coal, and soda are extensively worked. The iron deposits are about 40 to 50 miles to the north of Mukden, and would appear to be extensively worked in quantities to meet local requirements, but not as yet for export, owing to the lack of facilities.

In the southern portion of the northwestern province of Heilungchiang large quantities of soda are obtainable and exported in cakes to southern Manchuria and other northern parts of China, where it is extensively used in dyeing establishments, and also to dissolve the gum of cocoons in connection with silk reeling.

Coal has been found in several places in Manchuria—viz, at Fengt'ien, in the province of Liaoyang, known by the Japanese as Endai (Yentai ?), also north and northeast of Mukden, the principal deposit being at Mu-tsi (Japanese name, Budzun). As regards the deposits in the district of Mu-tsi, the following will convey a rough idea of the coal available: Senkinsai, seam 3,960 feet wide; Hakuho, seam 4,800 feet wide; Rokodai, seam 3,300 feet wide.

The most important deposit is at Senkinsai, the total estimate of available coal at the three places being about 300,000,000 tons. Other deposits exist close by at a place known as Kodioshi, on which an estimate has been formed that 140,000,000 tons are available for recovery, thus giving a grand total of 440,000,000 tons for the Mu-tsi district, near the ancient capital of Mukden, a branch line of railway having already been constructed from Eokaton, on the Manchurian Railway, 34 miles easterly to the district of Mu-tsi. A much infe rior coal has been found near the city of Kirin, in the province of that name. The deposits so found are distant as follows from the nearest port of shipment, viz:

	Miles.
Yingkow (also known as Newchwang) to Endai	86
Port Arthur to Endai	241
Dairen (also known as Tairen) to Endai	220
Yingkow to Mu-tsi	136
Port Arthur to Mu-tsi	291
Dairen to Mu-tsi	271

COLOMBIA.

AN AMERICAN COMPANY PREPARING TO WORK LARGE CLAIMS.

Consul Isaac A. Manning, of Cartagena, reports as follows concerning the preparations being made by an American company for the working of placer claims on the Neuga, Bebara, and Atrato rivers:

A representative of a New York company has been looking at placer claims secured by that company, with which, he says, he is well pleased. The claims consist of large tracts along the Negua River, several tracts on the Bebara, and others on the Atrato, at the mouths of the Tonando and Cabi rivers. The representative says that his company will proceed at once to construct a large dredge in the United States and bring it to the Atrato, and as rapidly as possible will increase the number of dredges.

The history of gold dredging in Colombia so far is a continued story of failures, the results of various causes, but principally lack

of knowledge of the mechanical requirements of the dredge to work the ground, lack of acquaintance with conditions, and defective management.

The gold coming from the foregoing rivers is generally coarse, therefore easily saved in ordinary flumes, and there is little doubt that the greater portion of the wash gravel beds of the Choco and central Antioquia are gold bearing. Much of the ground also carries platinum dust in greater or lesser quantities.

MEXICO.

ACTIVE DRILLING OPERATIONS—BENEFITS FROM SUCCESS.

Vice-Consul C. M. Leonard transmits the following report on oil wells in the Mexican State of Chihuahua:

For several years persistent reports of the existence of oil in the eastern part of the State of Chihuahua have been current. For the last three years an American company has been carrying on operations with a great deal of secrecy, but it is learned on good authority that they are sinking three wells, varying in depth at the present time from 1,400 to 3,285 feet. In one well oil sand to a depth or thickness of 40 feet has been encountered; in the second it is reported three pay streaks have been cut, and in the third the oil-sand strata is said to be 120 feet thick. Oil has been found twice in the latter.

Adjacent to the lands mentioned the governor of this State, Hon. Enrique C. Creel, owns large tracts of oil lands, and in an interview he informed me that he had received very favorable reports from engineers who had examined his property, showing that the existence of oil is strongly indicated. He has given options on these lands to an American, who is now forming a company in the United States for exploiting them, and work is expected to commence soon.

Following is an analysis of a sample of oil obtained from this field:

Naphtha and light oil	14.38
Kerosene light F. P. 110	31.05
Kerosene heavy F. P. 128	22.06
Lubricating oil	20.00
Paraffin	10.00
Total	97.49

The oil discovered is a fine paraffin base, said to be equal to the best Pennsylvania oil. The sand is of a grade known as Bradford (Pa.) chocolate sand. The lands upon which this oil is located are on the line of the Kansas City, Mexico and Orient Railroad, now under construction, and the line will reach the oil fields within twelve months.

The government of the State of Chihuahua has offered $5,000 gold for the first oil well brought in producing a minimum of 60 barrels of oil per day.

The benefit to the State of Chihuahua, and in fact to all northern Mexico, should oil be found to exist in commercial quantities is incalculable. Kerosene sells in this market for 34 cents gold per gallon; gasoline for 47 cents per gallon, the foregoing being wholesale prices. The cheapest coal obtained here costs $6.25 per short ton and as high as $9 per short ton for the best quality of bituminous coal. It will thus be seen that the matter of fuel makes the cost of manufacturing so high as to offer very little encouragement to such industries.

MINERS' BREATHING APPARATUS.

NEW AUSTRIAN SAFETY INVENTION FOR UNDERGROUND WORK.

Consul Joseph I. Brittain, of Prague, furnishes the following information concerning a new method for using liquid air:

At a recent meeting of the Austrian Miners' Association an interesting lecture was delivered concerning an invention by Engineer Otto Suess to carry liquid air into the mines. The invention is called "Aerolith" and is said will supersede all previously existing systems in use. The Aerolith is based upon the utilization of liquid air. Liquid air, which until recently could only be produced by expensive and complicated machinery, can now be produced at a moderate cost by machines of small horsepower.

The Suess machine consists of a reservoir in the shape of a knapsack, which is carried on the miner's back. This reservoir is filled with liquid air, three to four quarts being sufficient for two hours. The apparatus is connected by two tubes to a respiratory mask fixed in front of the mouth of the miner, so he may readily inhale the liquid air. The reservoir containing the liquid air has an alarm clock attached to it, which warns the miner when the two hours have elapsed. It is claimed that the invention has produced very good results, and at some of the mines laboratories for the manufacture of liquid air are being erected, in order that the management may always be prepared.

RUSSIAN IRON TRUST.

EMBRACES ABOUT HALF OF THE MANUFACTURING PLANTS.

Consul James W. Ragsdale makes the following report from St. Petersburg on the plans of the new Russian iron manufacturers' combination:

The South-Russian metallurgical trust, long discussed in financial and political circles, has been organized, under the title of Joint Stock Company of Metallurgical Works. According to the arrangement the trust will include the following companies: Dnieprovski, Russo-Belgian, Novorossiyski, Russian Providence, Ural-Volga, Taganrog, Donetzko-Jurievski, Brianski, and the General Company. The following table gives an idea of the importance of these enterprises, showing the output in poods (pood=36.112 pounds) of the different products of the nine companies during 1906–7:

Articles.	Poods.	Articles.	Poods.
Pig iron	87,581,907	Roof iron	840,762
Castings	67,481,559	Ties and axles	1,076,218
Furnace moldings	32,424,442	Pig iron and castings	3,111,578
Railroad rails	12,570,706	Pig iron and pipes	563,251
Beams and sleepers	4,849,354	Iron pipes	508,058
Various rails	1,157,464	Rail tie-rods	566,465
Assorted iron	20,411,089		
Laminated wire	1,303,828		240,182,30
Sheet and universal iron	5,735,627		

This shows that the companies named control 83 per cent of the southern works and 45 per cent of the total Russian metallurgical output. The share and bond issue will amount to 170,000,000 rubles (ruble=51.5 cents), and the excess of assets over liabilities will

amount to 156,660,000 rubles. It is expected that the net profit will approach 10,000,000 rubles. The trust will endeavor to promote railroad, industrial, and town construction, as well as to increase the general demand for the products of Russian iron.

ARTIFICIAL PAVING STONE.

NEW GERMAN COMBINATION OF ROCK REFUSE AND CEMENT.

Consul H. W. Harris, in reporting from Nuremberg that a German firm at Würzburg has recently placed on the market a patented artificial stone, called Vulkanol, for paving purposes, for which much is claimed, thus describes it:

The stone is composed of crushed basalt or other similar rocks collected in part as refuse from quarries and mixed with a small percentage of cement. The mixture is subjected to heavy hydraulic pressure and formed into blocks of convenient size for paving. These blocks are then subjected to a process of burning under high temperature in specially prepared furnaces, which process continues for about twelve days. The blocks are then permitted to cool as slowly as possible. This process of manufacture, resembling somewhat remotely nature's process in the formation of volcanic rocks, furnishes the name Vulkanol.

The blocks are of a brown chocolate color, and show on a broken edge a similar color intermixed with white grains and small fragments of feldspar. The blocks are tough in structure and, it is claimed, withstand all the ordinary tests as to crushing, frost, disintegration, and so forth, that they do not become smooth or slippery by use, and are as durable as natural granite. For much-traveled streets, where heavily loaded wagons are in use, a 6-inch concrete foundation is recommended by the manufactures, while for lighter traffic a foundation of macadam is regarded ample. On a concrete foundation stones 6 centimeters (2.36 inches) in thickness are said to be ordinarily sufficient. On a macadam foundation stones of 8 centimeters (3.15 inches) in thickness are preferable.

The manufacturers claim that by reason of its hardness and close-fitting joints pavements of this material are comparatively free from dust; that filth can not penetrate to the ground below; that the pavement can be readily cleaned with a hose, and on sanitary grounds is unsurpassed by any other form of pavement. The claim is also made that the pavement can be readily fitted to street-car tracks, is well adapted for automobile roadways, and is comparatively noiseless. Thinner tiles of the material are made for sidewalk purpose, the surface of those being grooved where required on grades or for other reason.

The pavement has been tried with satisfactory results, as it is claimed, on short stretches of street or on driveways, courtyards, etc., in Würzburg, Munich, Bremen, Cologne, Bamberg, and elsewhere.

The cost of street pavin with this mat al is d to be less in this part of G te blo halt are used, and slightly n t is used. It is claimed, however, than Vulkanol by reason of

PETROLEUM PROSPECTING.

NORTH BORNEO.

COMBINED CORPORATION TO GREATLY EXTEND OPERATIONS.

Vice-Consul John Wardrop, of Sandakan, sends an extract from the British North Borneo Herald regarding the formation of a syndicate to prospect that East India colony for petroleum. It includes the two present operating companies, one of which increased its output from 64,500 tons of crude petroleum in 1901 to nearly 500,000 tons in 1905. Its shipments of refined products in 1906 were 123,642 tons of kerosene, 154,056 of liquid fuel, and 16,614 tons of benzine. Petroleum in Borneo is contained in regular occurrences of oil belts of narrow widths, but of very great lengths. It is the intention of the consolidated concern, which has a capital of $51,098,250 gold, to further exploit the island and extensively develop this industry. The Herald adds: " Borneo oil is exceedingly rich in valuable paraffin wax, for which there is a large market all over the world, while almost all the benzine now produced in Borneo is shipped to Europe and the United States, where it is used as fuel for motors and internal-combustion engines and many other purposes."

HUNGARY.

DISCOVERY OF A GOOD FLOW IN BORLONA.

Consul-General Norman Hutchinson, of Bucharest, from information obtained from the Roumanian press reports that petroleum has been discovered in the commune of Borlona, county of Karos-Severin, near Caransebesh in Hungary. In working on the foundations of a school the laborers struck a flow of oil which is of sufficiently good quality to burn in lamps.

UNITED STATES.

STATISTICS OF OUTPUT FOR LAST YEAR.

The petroleum production of the United States in 1907, says the Geological Survey, was characterized by a total output far in excess of any previous year, and an unparalleled accumulation of stocks, in spite of which the price of all grades of oil was kept at a high level. The sensational developments were the great increase in the new Illinois field and the phenomenal yield in Oklahoma, together with increases in both quantity and price in California. The total product was 166,095,335 barrels in 1907, an increase over 1906 of 39,601,399 barrels, or more than the total product of petroleum in any year up to 1889. The total value increased from $92,444,735 in 1906 to $120,160,749 in 1907. The average price decreased only slightly. During 1907 a total of 18,855,691 barrels of oil were consumed as fuel by the railroads of the United States, as against 15,537,677 barrels in 1906. Most of the oil consumed was crude oil.

EXPOSITIONS AND CONGRESSES.

INTERNATIONAL MEETINGS.

FRANCE.

TRADE OPPORTUNITIES AT THE NANCY INTERNATIONAL FAIR.

Consul W. Bardel, of Rheims, submits the following report on the International Exposition to be held at Nancy, in that French consular district, this coming year:

I am convinced that if our merchants should make an effort to send a representation of their goods to the said exhibition, material benefit will be derived. That part of France where this exposition is to be held is about the richest of the whole Republic, with fine agricultural and advanced industrial interests, and a part in which American surplus products ought to find a splendid field, if properly introduced.

In the interest of American trade I recently addressed to the director-general of the exhibition a letter, in which I asked for information as to the feasibility of having goods of American production represented at the said exposition.

In his reply to my letter the director-general stated that it would give the authorities of the exposition great pleasure to receive certain exhibits from the United States. He claims that while their exposition is to be principally a provincial one, in which the development, aptitude, and resources of the industry, commerce, and agriculture of eastern France are to be displayed, it is to disclose at the same time their wants. Therefore, the countries which supply them with articles of commerce and industry will naturally be very welcome to participate, no country more so than the United States of America.

FIRST-CLASS EXHIBITS—REGULATIONS.

The director-general thinks that no one can judge better what goods would be acceptable to their exposition than those who for years have supplied the French market with goods of American production. He also claims that their exhibition will have nothing in common with the trend of ordinary local expositions, and that none but exhibits from first-class concerns are desired. With his letter the director-general also sent a prospectus of the rules and regulations to be established by the authorities of the coming exhibition. r the enlightenment of possible American exhibitors the fol extracts from the prospectus are given:

The exposition will be opened on May 1 and cl in 1909. Applications for space must be sent in Exhibits must be delivered before April 5. T e i of articles exhibited. For each exhibit an en ($3.86) is to be paid; collective exhibits pay as i they represent exhibitors. The surface tax 1 (39.37 square inches) ranges from 100 fran

francs ($1.93), according to location and position. For exhibits requiring only limited space extra reductions will be made.

None of the exhibits are permitted to be withdrawn before the closing of the exposition; exceptions to this rule are only granted to exhibitors who have such exhibits for sale which can immediately be replaced by others of the same kind and without any detriment or disturbance to the exposition at large. Exhibitors wishing to sell such articles can only do so by special consent of the exhibition authorities, for which consent application must be made at the time of applying for space.

For power necessary for the display of machinery, etc., special contracts can be made at reasonable figures. All expenses of placing the exhibits, all decorating, guarding, cleaning, etc., are to be borne by the exhibitors.

DUTIES REFUNDED—BENEFITS TO BE DERIVED.

Exhibits coming from foreign countries will be sent in transit to the bureau in Nancy, and are under the surveillance of the custom-house officers, who will demand a certain deposit for customs duty, which will be refunded when the exhibits again leave France.

Although the world at large has within the last decade been supplied with many expositions, some of which proved to be of little or no consequence, the one described would seem to appeal favorably to some American merchants and industrials. It is well proved by existing statistics that France consumes annually great quantities of American products, and the eastern part of France, in which the exhibition is going to be held, offers splendid opportunities for an increase in the sale of American goods. Such American firms particularly as have established agencies for the sale of their goods in France, principally at Paris, ought to derive much benefit from a proper representation of their products at the exposition in Nancy.

All communications and inquiries regarding the exposition should be sent directly to Monsieur le Directeur-Général de l'Exposition, à Nancy, France. If, however, some merchants desire further information on this subject before applying directly to the officers of the exposition, this consulate is ready to do all it can for them.

MECHANICAL BREAD KNEADERS.

THIRTY-FIVE EXHIBITS AT LYON—EXTENSIVE USE IN FRANCE.

Consul John C. Covert, of Lyon, advises that during the latter part of September there was an exhibition of mechanical bread kneaders in that French city, at which thirty-five mechanical devices were exhibited for kneading bread by power, the working being thus summarized:

Three were German inventions, all the others were French. The prices of these machines varied from 500 francs ($96.50) to 4,000 francs ($772). Most of them are worked by steam or electricity, but all of them may be worked by hand or by gas or petroleum engines.

These machines will knead from 300 to 1,000 pounds of bread in an hour or in less time, and they will knead from 1 pound of bread up to 500 pounds. They are used in nearly every bakery in France, and the old style of kneading by hand is nearly out of use.

The troughs in which the dough is kneaded in these machines are *generally* about 4 feet in diameter. When the work of kneading is

in progress, the trough turns round slowly and the dough is turned over by a system of metallic claws, which lift it up, throw it over, and give it a thorough turning as completely as could be done by the hand. By this system every part of the dough is thoroughly kneaded.

It is claimed that the bread made by this system is better than the article made by the old method.

A mechanical bread kneader employed in France some twenty-five years ago became very unpopular, but upon investigation the cause of the unpopularity was found to be in the poor quality of flour used. It is now considered beyond dispute that the mechanical bread kneader produces a better article of bread; that it is healthier than the bread made by the old methods.

GERMANY.

FOURTH INTERNATIONAL ESPERANTO CONVENTION.

Consul Thomas H. Norton, of Chemnitz, furnishes the following information concerning the fourth international congress of Esperantists, which was held in Dresden August 16 to 22:

The fourth international congress of the adherents of the universal language, Esperanto, was held at Dresden. There was no evidence of any diminution in the enthusiasm of those enrolled among the Esperantists, or in the rapidity with which the new medium of communication is spreading throughout the world. The press of Germany notes a vitality in this artificial language which leads to a general recognition of its practical value and of its adaptation to meet the logical demands as an auxiliary to the current tongues of mankind.

There was, in fact, much enthusiasm in the gathering of delegates, 1,200 in number, from all parts of the world. The gathering elicited an unusual amount of sympathetic interest in the city where it met and throughout Germany. The Emperor sent a special greeting. The King of Saxony accepted the position of its protector, and placed at its service the royal opera house for the production of a drama in Esperanto, and in other directions evidenced his appreciation of the purpose of the gathering. The city of Dresden showed an exceptional degree of cordiality and hospitality in welcoming the guests. A score of policemen had been drilled in advance to a fluent use of the language, and with distinctive badges were constantly at the service of the delegates.

In the congress itself as high a degree of differentiation was reached as is ordinarily found in the gatherings of great scientific bodies. A few general sessions were held, but the bulk of the work was done by the various sections devoted each to some particular phase of the multiple interests now connected with the growth and usefulness of Esperanto.

The following briefly summarizes the results of the c r d portrays the position occupied in the r to by w, shown by the reports from the various c

ESPERANTIST SOCIETIES, PERIODICALS, AND

The number of those using the la
Of organized societies and groups t

of 30 per cent since the close of 1907. The countries leading in the movement are France, with 193 groups; the United Kingdom, 145; Spain, 84; Germany, 72; the United States, 66; Switzerland, 49; Austria, 46; Sweden, 39. There are now 90 special and professional Esperanto societies, including 6 women's clubs, artisans' unions, policemen's societies, temperance organizations, etc.

Periodicals published in Esperanto numbered July 1, 1908, 55. This is an increase of 11 during the preceding six months. Most of these journals are monthlies. The majority are for the purposes of propaganda. Some are for the international use of specialists, physicians, chemists, police, religious and secret organizations, etc.

Public recognition of the language is steadily advancing. The postmaster-general of the United Kingdom has admitted Esperanto on the same footing as modern European languages for use in telegraphing; the committee of the Jubilee Exhibition at Prague issues its circulars in Esperanto, as in other languages; Count Hayashi, the Japanese minister of foreign affairs, has accepted the presidency of the Japanese Esperanto Association and has advised his countrymen in a public letter to master the language. In Germany general attention is awakened to its value in connection with international trade. Various firms issue price lists and catalogues in Esperanto.

Much attention is being devoted to the standard translation of the Bible, intended particularly for missionary work. The section in charge of this feature reports that the Psalms are now in print and that most of the New Testament is ready for the press. Short portions of the Old Testament have been published, but the greater portion of the translation is still to be accomplished and is in the hands of scholars.

ADAPTED FOR SPECIAL PURPOSES.

Numerous delegates from Red Cross societies were united in a section, which advocates strongly the value of Esperanto for ambulance service and in general connection with the activities of this preeminently international organization. An equal degree of importance was given to the usefulness of the language in police service.

The medical and legal sections are engaged actively in perfecting the nomenclature of their professions. The stenographers likewise formulated schemes for the official shorthand system of Esperanto, which will be laid before the next international stenographic congress at Rouen.

Great weight was laid upon the value of Esperanto for the blind. Books in raised letters are exceedingly costly, largely on account of the limited demand. It is hoped that by the general introduction of esperanto for use by the blind the number of publications available for their use can be notably increased and the cost incident to publication in the several languages be correspondingly lessened.

The sentiment of the great majority of the congress was opposed to any innovation or alteration in the accepted standards at present, and opinion was decided that Esperanto, as now constituted, must be left to the natural play of the laws of evolution, as they will make themselves felt in course of time.

A SIMPLE AUXILIARY TO LIVING LANGUAGES.

Much interest centered about the production of Goethe's classic drama, Iphigenie, in the Royal Opera House. The translation of the latter had been made by Doctor Zamenhof, the inventor of Esperanto,

and the play was presented by some of Germany's best actors. It awakened much enthusiasm among the representatives of over a score of nations, able to enjoy a masterpiece of German poetic thought in a linguistic garb common to them all. Critics of the production state that, while the words have much of musical value, on account of the prevalence of vowel terminations, still there is manifest difficulty in approaching the harmonious flow and rhythm of Goethe's verse. As a language Esperanto is still too poor in vocabulary to meet the demands of poetic expression, while the simplicity and practical monotony of construction fail to convey the full charm and delicacy of thought embodied in the world's masterpieces. The slight likelihood of making Esperanto, at least for many years to come, a language of deep thought and sentiment is recognized by the leaders in the movement. At the Dresden congress they emphasized constantly the rôle it should play, a simple auxiliary to the living languages of the world, affording with little effort the means of bringing together on a common linguistic ground the most diverse peoples and enabling them to communicate with ease all that concerns business travel, and material existence. It is not a "language" in the philosophical sense of the word, and it is doubtful whether it can ever possess such elements of vitality that a genuine development or evolution can take place, or that the intellectual life of any people can find expression through its medium.

The fact that Esperanto can be mastered in a few days, that its simplicity renders it so useful and practical a tool for a multitude of purposes, prevents it on the other hand from undergoing change and precludes mobility and growth. This very simplicity and immobility impart, however, a property of marvelous clearness, directness, and definiteness.

In 1909 two international Esperanto congresses will be held, one at Barcelona, the other at Chautauqua, N. Y. A congress will be held in connection with the projected international expositions at Brussels in 1910 and at Tokyo in 1917.

ESPERANTO IN INTERNATIONAL COMMERCE.

The importance of Esperanto as a factor in simplifying and facilitating international commerce, rendering the employment of clerks understanding the languages unnecessary, is apparent. During the past year active associations have been established in Chemnitz and other leading centers. Esperanto courses are constantly maintained, and the number of clerks, etc., able to use the language with ease is growing at a rapid rate.

Prominent Saxon manufacturers have now organized an Esperanto Institute, which begins its activities on September 1. It is divided into 5 sections, viz, commerce, travel and transportation, translations, scientific work, and general propaganda. An office staff and a corps of teachers have been engaged. It will evidently require but a short time before the highly developed industrial mechanism of Saxony, with its exceptionally extended foreign trade relations, will be well equipped to use Esperanto in its international correspondence. Various firms already issue price lists in Esperanto. While Saxony is peculiarly dependent upon its foreign markets, is is probable that similar well-organized movements will follow in all European countries which are studying every possible means for gaining and holding new markets.

AUSTRIA.

THIRD INTERNATIONAL MEETING OF TRADE INTERESTS AT PRAGUE.

Consul Joseph I. Brittain furnishes a report concerning the third International Congress of Chambers of Commerce, whose official opening took place in the Industrial Palace of the Prague Exposition on September 5. The following is a summary of the report:

The questions discussed by the congress during its sessions were: (1) The necessity of an international law concerning the uniformity of bills of exchange; (2) the necessity of establishing a central international bureau of information on customs statistics, with a view to simplifying and making uniform the terms, rules, and usages at the custom-houses of the world; (3) the desirability of fixing a uniform date for the Easter holidays in all countries.

The discussion of the foregoing questions resulted in the adoption by the congress of the following three resolutions:

This congress ratifies the wishes of the two former congresses, held at Liege and Milan, and begs the different delegates to influence their respective governments that they may accept the invitation of the Netherlands Government to hold an international conference to consider said question. This congress expresses the wish that this conference consist of merchants and journalists, and that the preliminary work in each country be done by representatives of the domains of commerce, manufacturing, and banking.

The International Congress of Chambers of Commerce expresses the wish that customs formalities should be reduced to those strictly necessary for assuring the collection of customs, and as far as possible the formalities should be made uniform in all countries. Consequently, the congress asks its permanent committee to start inquiries at the chambers of commerce and various industrial associations, with a view of devising the most practical means for obtaining the desired results.

The congress expresses the wish that an agreement be reached regarding a fixed date for the Easter holidays, but it desires the opinions of chambers of commerce of those countries which have not sent delegates to this congress. It also desires that this question be one of the first to be discussed at the next session.

The president reviewed some of the motions which were made during the sessions but were left for future consideration. These were the regulation of world's fair committees and the collection of information on commercial conditions and wages in different countries. The matter of reduced postage between the United States and continental countries was not discussed.

Before the congress closed the delegate from London invited the congress to hold the next meeting in that city.

During the period of the congress in Prague every consideration was shown by the city government of Prague through Mayor Gros and the municipal council. The Prague Chamber of Congress extended many courtesies and the governor of Bohemia invited to dinner delegates from each country.

The Archduke Charles Francis Joseph delivered the opening address at the Industrial Palace of the Prague Exposition, in which he expressed the hope that the present congress would push forward along the lines indicated by the founders of the congress. [Copies of the speeches delivered at the congress by the president and by the commissioner of the National Board of Trade of the United States, transmitted by Consul Brittain, are on file in the Bureau of Manufactures.]

RUSSIA.

EXPOSITION OF THE LATEST INVENTIONS AT ST. PETERSBURG.

Consul-General Hunter Sharp, of Moscow, advises that an International Exposition of the Latest Inventions will be held in the Michailoff riding school at St. Petersburg from May 4 to June 23, 1909 (Russian calendar, April 21 to June 10, 1909), under the management of the Society of Military, Naval, and Rural Economic-Technics of Russia.

The following programme has been adopted and approved by the Ministry of Commerce and Industry, December 20, 1907, permitting only the latest inventions to be exhibited:

Section I—Military.—Inventions in military technics, means of moving troops and military baggage, methods of defense, and military aeronautics.

Section II—Navy.—Inventions in naval technics, improvements in the construction of ship hulls and means of attaining nonsubmersion. Machinery and engines, life-preserving and diving apparatus, also submarine boats.

Section III—Agricultural.—Inventions in agricultural machinery and implements as used in all branches of agriculture, such as farming, gardening, wine making, beer brewing, fabrication of hydromel, forestry, cattle breeding and raising, dairy farming, rearing of bees, breeding of fishes and fishing, and fruit drying. Artificial fertilizers, chemical and bacteriological preparations.

Section IV—Means and ways of communication.—First group, land transportation: Railroad inventions, one-rail track system, and automobiles. Second group, water transportation: Means of communication, dredging machinery, and improvements of seaports.

Section V—Structural.—Improvements in the construction of buildings and plans for municipal buildings.

Section VI—General and auxiliary science.—First group, industry and manufacture: Inventions in metallurgical and mining machinery, general machinery and tools. Heating, ventilation and lighting (exclusive of electric), and canalization. Hand-made goods. Machinery driven by natural power. Second group, electricity: Transportation, lighting apparatus, ventilation, sundry small inventions and novelties. Telegraphs, telephones, wireless telephones and telegraphy; also transmission of drawings by telegraphy. Third group, household articles: Inventions in the manufactures from clay, glass, metal, and stone. Apparatus for preparing nourishment and beverages. Stationery and school furniture and appliances. Lighting apparatus. Perfumery and soaps; also tobacco and cigarettes. Fourth group, fire apparatus: Engines, pumps, hose, ladders, and extinguishers. Fifth group, fine arts and photography: Inventions in articles for painting, sculpture, stone carving, and burnt wood and leather painting. Lockets and medallions. Photography, typography, book binding, and publishing. Sixth group, medicine: All latest discoveries in medicine and inventions in surgery. Seventh group, hunting and sport: Hunting articles. Sport: Skates, snowshoes, bicycles, yachts, sloops, etc.

All foreign exhibits will be allowed to enter Russia free of duty under the condition that they will be reexported within two months after the closing of the exposition.

Exhibitors wishing to take part in this exposition should address themselves to the Committee of the International Exposition of Latest Inventions, Moika 1, St. Petersburg, not later than January 14, 1909, who will furnish all necessary information.

SWITZERLAND.

INTERNATIONAL PURE-FOOD CONGRESS.

Consul Francis B. Keene transmits resolutions and decisions of the so-called White Cross Congress held at Geneva, Switzerland,

September 8–12, for the purpose of establishing standards of purity for foods and drugs. The papers transmitted are published in French and deal with cocoa, chocolate, coffee, tea, mustard, spices, grains, bread, alimentary pastes, pastry, flour and meal, sugar, sirup, confectionery, honey, meats, mineral waters, and drugs. The proceedings are on file in the Bureau of Manufactures and may be consulted by those interested in the subject.

ARGENTINA.

STATUES IN BUENOS AIRES—ERECTION OF MONUMENTS.

Consul-General Alban G. Snyder, of Buenos Aires, sends the information that as a part of the celebration of the centennial of Argentine independence in 1910 it is proposed to hold various exhibitions and erect many monuments in commemoration of historical events in the nation's history. The following are some of the items on the programme to be carried out in time for this celebration:

Statuary in Buenos Aires.—Statue at the entrance of the port known as the Statue of the Republic, and bearing the inscription, "Peace and liberty for all men of the world wishing to live on Argentine soil." Commemorative statue in the Plaza de Mayo. National pantheon for the ashes of the nation's leaders. Statue to General Pueyrredon in the Plaza San Jose de Flores. Monument in Plaza Municipal commemorative of the Cabildo of 1810. Statues in various plazas to Moreno, Rivadavia, and Admiral Brown. A mound, containing earth from every South American battlefield on which Argentine blood has been shed, is to be erected in the Campo de Mayo, and is to be surrounded by figures representing various epochs and topped by an allegorical piece of sculpture representing the army of liberty.

Monuments in the provinces.—To the Congress of 1853 in the capital of Santa Fe; to the national flag in Rosario; to Dean Funes in the city of Cordoba; to liberty in the city of Santiago del Estero; to the battle of Ciudadela in the city of Tucuman; to the allies of the Peruvian army in the capital of Jujuy; to Castro Barros, a statue in La Rioja; to General Guemes, an equestrian statue in Salta; statue to independence in the plaza of Catamarca; statue of Pringles in city of San Luis; monument to the crossing of the Alps in San Juan; monument to the army of the Andes in Mendoza; monument to liberty in Parana, Entre Rios.

Rural show.—The Argentine Rural Society is authorized to organize a comprehensive agricultural and pastoral exhibition, the government furnishing the necessary funds.

Railway exhibition.—The government is to organize a railway exhibition.

Physical and geological exhibits.—Physical and geological conditions of the country are to be shown and explained by an exhibition of suitable objects.

National works.—A selected edition of works of national authors dealing with the history and customs of the people is to be published.

The government proposes to issue invitations to scientific and other persons who are in a position to study and appreciate the conditions prevalent in Argentina.

BRAZIL.

LATIN-AMERICAN HYGIENIC CONGRESS AND EXHIBITION.

Writing from Rio de Janeiro, Consul-General George E. Anderson sends the following account of the Fourth Latin-American Medical Congress, which is to be held in the Brazilian capital from August 1 to 8, 1909:

It is expected that while the set programme of this international congress will cover only about a week, its actual activities, social and otherwise, will run over about two months. It has been planned, therefore, that there be held during this period an international exposition of sanitary appliances, medical foods and drugs, models of sanitary establishments, and, in short, all articles connected reasonably with medicine and hygiene. The dates for this exposition have been fixed to cover the period from August 1 to September 30, 1909.

The Government of Brazil has offered for the use of this exposition the buildings, machinery, and installations prepared for the National Exposition to commemorate the opening of the ports of Brazil to international trade, which is held this year. The hygiene exposition, therefore, is to have unusually satisfactory accommodations in every way. Site, buildings, light, power, transportation, and other conveniences will be on a scale prepared for a great national affair.

The congress which is the occasion for the exposition follows in series those held in Montevideo in March, 1907, and previously in Santiago, Chile, and Buenos Aires, Argentina. It will include physicians and surgeons, pharmacists, chemists, naturalists, sanitary engineers, demographists, veterinaries, and dentists. The congress will be divided into nine sections according to subjects to be considered, members meeting by sections and as a whole as occasion may demand. The sessions will consist of the reading and discussion of reports and papers, of the presentation and discussion of resolutions, of conferences and practical demonstrations in all lines of the subjects considered. The proceedings are to be in Portuguese and Spanish, although Italian and French will be allowable with the permission of the congress at the time. The organization of the congress at present includes representatives in Argentina, Uruguay, Chile, Peru, Mexico, Cuba, and Brazil.

WIDE SCOPE OF TOPICS.

The exposition is to be divided into two sections, and further divided into 66 classes arranged in 19 groups. The first section, the industrial section, will include 12 groups of classes, as follows:

(1) Apparatus for the examination of air, soil, and water, covering parasitology; (2) apparatus for the manufacture and preservation of alimentary products like meat, fish, milk, vegetables, and the like, fruit juices, mineral waters, and the like, and culinary apparatus and products generally; (3) paving materials, materials and apparatus for the care and protection of the soil, streets, closets, irrigation, drainage and plumbing, the care and protection of water supplies, public markets, street cleaning, public baths, fire-fighting apparatus, and in general all other articles and goods concerned in rural and urban hygiene; (4) apparatus and products connected with personal or private hygiene like personal exercise, housing, ventilation, illumination, kitchen arrangements, and household affairs generally; (5) articles and apparatus for hospitals, schools, industrial establishments, prisons, military establishments, and other public edifices generally, covering general [illegible] s connected with the public health and such establishments; (6) interna[illegible] hvg [illegible] the health of ports, examination and disinfection of [illegible] against specific diseases like

tuberculosis, public assistance like ambulances and first-aid appliances and apparatus, and articles for autopsies, as well as laboratory appliances; (7) chemical products, diagnostic tests, and the like; (8) surgical appliances; (9) hygienic furniture and appliances for cleaning houses and buildings, sanitary clothing and the like, and sanitary construction materials; (10) foods of all kinds; (11) living animals concerning hygiene directly or in their products like meat, milk, wool, leather, and the like; (12) maps, plans, illustrations, diagrams, etc., illustrating or presenting prophylactic methods against certain diseases, as syphilis, tuberculosis, alcoholism, malaria, etc.

SCIENTIFIC FEATURES—SPLENDID TRADE OPPORTUNITIES.

The second section, the scientific section, restricted to the hygienic interests of Latin America, follows the general subjects and grouping of the industrial lines noted in the first section, the exhibits being confined to a scientific presentation of subjects connected therewith and to specimens, samples, and the like connected with such presentation.

The premia at the exposition will consist of medals and diplomas. Exhibitors will be allowed a certain reasonable space for their exhibit without charge, additional or unusual space to be charged for. Other arrangements in general conform to rules common in such exhibitions.

The scope of the exposition in some respects is almost unlimited, and I believe that it offers an exceptionally good opportunity for American manufacturers in some lines to get in touch with a rapidly growing trade in Latin America in all those lines and varieties of products connected with the health and material betterment of the people of these countries. Applications for space should be made before April 30, 1909, when the allotments will be made. Applications will not be received after June 15, 1909. All communications relating to the exposition should be addressed to "Secretaria Geral do Congresso e da Exposição de Higiene, Rua Uruguayana No. 5, Rio de Janeiro, Brazil."

JAVA.

EXHIBITS IN RUBBER EXHIBITION AT LONDON.

Consul B. S. Rairden, of Batavia, reports that Java is to be well represented at the coming rubber exhibition at London. He writes:

The department of agriculture is sending an interesting collection of photographs of rubber and gutta-percha as cultivated in the Netherlands India. Among these are some of gutta-percha trees, cultivated on government plantations, which are more than twenty years old. There will also be a map of the government plantation Tjipeter, which has an area of about 400 bouws (1 bouw is 1.75 acres), and specimens of rubber plants from this plantation will be sent.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

BRITISH INDIA.

REMITTANCE OF DUTY ON SUGAR.

Consul-General William H. Michael reports from Calcutta that the Governor-General in council has directed that the duties on sugar on and after September, 1908, shall be remitted if imported into British India direct from the country of production or through another country which is a party to the Brussels sugar convention without having been transshipped at or unloaded in or carried through any country which is not a party to that convention, and provided also that it is accompanied by a certificate of origin, such as is required in respect of sugar produced in countries which are parties to the Brussels sugar convention.

CANADA.

TAX ON ALE, PORTER, AND BEER IN YUKON TERRITORY.

Consul G. C. Cole, writing from Dawson, Yukon Territory, August 8, transmits a copy of the following resolution passed by the Council for the Yukon Territory on July 30, 1908, imposing a tax of 50 cents per gallon on foreign imported porter, beer, and ale into the Yukon Territory:

Resolved, That in the opinion of this Council it would be a wise and just policy to impose a fee of 50 cents per gallon on all porter, beer, and ales, which may be in future imported into the Yukon Territory, and that said tax shall apply only to foreign products and not on Canadian or British products, and that the Hon. Frank Oliver be notified by telegraph of the action of the Council in that behalf.

A former territorial tax on imported beer was removed by an ordinance dated June 22, 1904.

The official Canada Gazette of October 3, 1908, contains an ordinance of the Governor-General in Council giving effect to the above resolution, as follows:

The ordinance of the 22d of June, 1904, respecting the importation into the Yukon Territory of malt and spirituous or intoxicating liquors or other intoxicants and traffic therein, shall be, and the same is hereby, amended by providing that on and after the 1st day of November, 1908, a tax of 50 cents per gallon be imposed on all ale, porter, beer, or lager beer imported into the Yukon Territory from any foreign country.

CHINA.

EXPORT OF WHEAT FROM MANCHURIA PERMITTED.

Consul Thomas E. Heenan transmits from Newchwang a copy of Customs Notification No. 10, issued by the commissioner of customs at Newchwang on September 15, removing the prohibition of the export of wheat from Manchuria. This regulation is due to the large wheat crop of Manchuria. Wheat is subject to an export duty of 0.100 haikwan tael ($0.0637) per 100 catties (133.33 pounds). The proclamation reads as follows:

Notice is hereby given that wheat grown in Manchuria may be exported to foreign countries by sea on payment of export tariff duty.

This relaxation of the existing prohibition is of a special nature in consideration of the special conditions of production in Manchuria. It applies only to wheat. The export of other grain to foreign countries is prohibited as hitherto.

It is liable to be withdrawn in years of scarcity at the discretion of the Chinese authorities by proclamation, due notice being given in advance.

It is applicable at South Manchurian custom-houses and can not be claimed as a precedent for any other provinces of China or ports situated therein.

COLOMBIA.

PORT CHARGES AT CARTAGENA.

Consul Isaac A. Manning reports from Cartagena, under date of September 9, that the Government of Colombia collects from commercial shipping entering at the port of Cartagena the following port fees:

Tonnage dues of $1.50 per ton for every 1,000 kilos (2,204.6 pounds) or fraction thereof on cargo actually landed. Pilotage, including entry and departure, $10 in gold. Sanitary visit, $10 gold.

Light-house dues at rate of $5 gold for first 100 tons, and $0.025 (2½ cents) for each additional ton of net register, for every light-house passed by ship within "seeing distance," payable only once per voyage at any port of the country. The light-houses which may affect these dues at this port are Galera Zamba light; La Merced (Cartagena light); Isla Grande, and Bocas de Ceniza.

The charges of the Cartagena Terminal Company are as follows: Stevedoring, cargo embarked or disembarked, 12 cents per ton, with a minimum charge of $10 for ships touching the pier; dockage, 30 cents per ton register, up to 60 tons, and 3 cents per ton for each ton exceeding 60. Consignees pay 40 cents per ton for general cargo from ship's side to warehouse at La Machina, including weighing and loading, and $1 per ton for transportation to Cartagena, including unloading cars.

For each car of cattle or live animals to or from Cartagena to or from ship's side at La Machina, consignees or consignors pay $10 per carload. Consignors pay 50 cents per ton for general freight taken from Cartagena bodega to ship's side at La Machina, loading and unloading included. Extra charges are made for work on Sundays and public festival days.

CUBA.

CHANGES IN CUSTOMS DUTIES.

By decrees promulgated in the Gaceta Oficial, October 6 and 13, the following tariff numbers have been modified either as to classification or rates of duty, the amended form being as follows:

Tariff No.	Articles.	New rate.	Surtax.	Total duty.	Reduction to United States.	New rate to United States.
64	Wire covered with tissue or insulating material for the transmission of electricity:					
(a)	Wires and cables, not protected (Disp. III, Rule 5), 100 kilos	*Dollars.* 7.50	*Per cent.* 25	*Dollars.* 9.375	*Per cent.* 20	*Dollars.* 7.50
(b)	The same protected by lead tubes and other insulating covers (Disp. III, Rule 5), 100 kilos	2.00	25	2.50	20	2.00
127 (a)	Bags for packing sugar at the sugar mills or refineries, made of cotton tissue, plain and without figures or twilled, whatever may be the number of threads thereof and the weight per 100 square meters, whenever they should be imported indelibly marked with the name of the sugar mill or refinery and place where the same is located, N. W., kilo	.09	.....	.09	30	.063
128	Trimmings of cotton, ribbons, and galloons, N. W., kilo	.52	15	.598	30	.4186
(a)	Braids and ribbons of cotton for reins, headstalls, and girths, N. W	.15	15	.1725	30	.12075
	NOTE.—The reins, headstalls, and girths dutiable under the above paragraph shall be subject to a surtax of 50 per cent.					
142	Trimmings of hemp, jute, linen, ramie, etc., ribbons, and galloons, N. W	.60	15	.69	30	.483
(a)	Braids and ribbons of hemp, jute, linen, ramie, etc., for reins, headstalls, and girths, N. W	.17	15	.1955	30	.13685
	NOTE.—The reins, headstalls, and girths dutiable under the above paragraph shall be subject to a surtax of 50 per cent.					
281	Vinegars:					
(a)	In casks, barrels, or half-barrels, T. E. (Disp. III, Rule 13), per hectoliter	3.00	.....	3.00	20	2.40
(b)	In bottles, flasks, demijohns, or other like receptacles, T. E. (Disp. III, Rule 13), per hectoliter	9.00	.....	9.00	20	7.20
282	Saffron, safflower, and flowers of "tobar," ad valorem	25%	25	31¼%	20	25%
283	Cinnamon of all kinds, cloves, pepper, and nutmegs, ad valorem	25%	25	31¼%	20	25%

The changes affecting tariff Nos. 128 and 142 are to go into effect twenty days after the publication of the decree in the Official Gazette; those affecting tariff No. 127 (a), 281, 282, and 283, thirty days after the publication of the decree in the Official Gazette. The decrees were published on October 6 and 13, respectively.

SALVADOR.

NEW EXPORT DUTY ON CHLORATE OF POTASH.

Minister H. Percival Dodge transmits translation of a decree published in the Diario Oficial of July 8 placing chlorate of potash for use in manufacture under No. 96 of the tariff, subject to a duty of 5 centavos per kilogram.

CLASSIFICATION OF ANTIMONY FOR DUTY.

The minister also transmits a copy of a Salvadorean decree, dated August 26, 1908, by which antimony is placed under tariff No. 139, providing for a duty of 10 centavos (5.8 cents) per kilo (2.2 pounds). To this duty should be added a number of surtaxes aggregating 6 cents per kilo.

VENEZUELA.

TARIFF CLASSIFICATION OF HEMP AND FLAX.

Mr. John Brewer, in charge of the archives of the American legation at Caracas, transmits a copy and translation of a Venezuelan decree dated September 17, 1908, by which "hemp or flax in fiber" is placed in the second class of the tariff. This class pays 10 centimos (1.9 cents) per kilo.

REDUCTION OF DUTY ON GLASS PLATES.

Mr. Brewer also transmits a copy of a Venezuelan decree dated October 1, by which glass plates, not silvered, white, or colored, are to be dutiable according to Class III, at 0.25 bolivar (4.825 cents) per kilo (2.2 pounds), without the surtax of 25 per cent which was formerly applied to that article according to Tariff No. 183.

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